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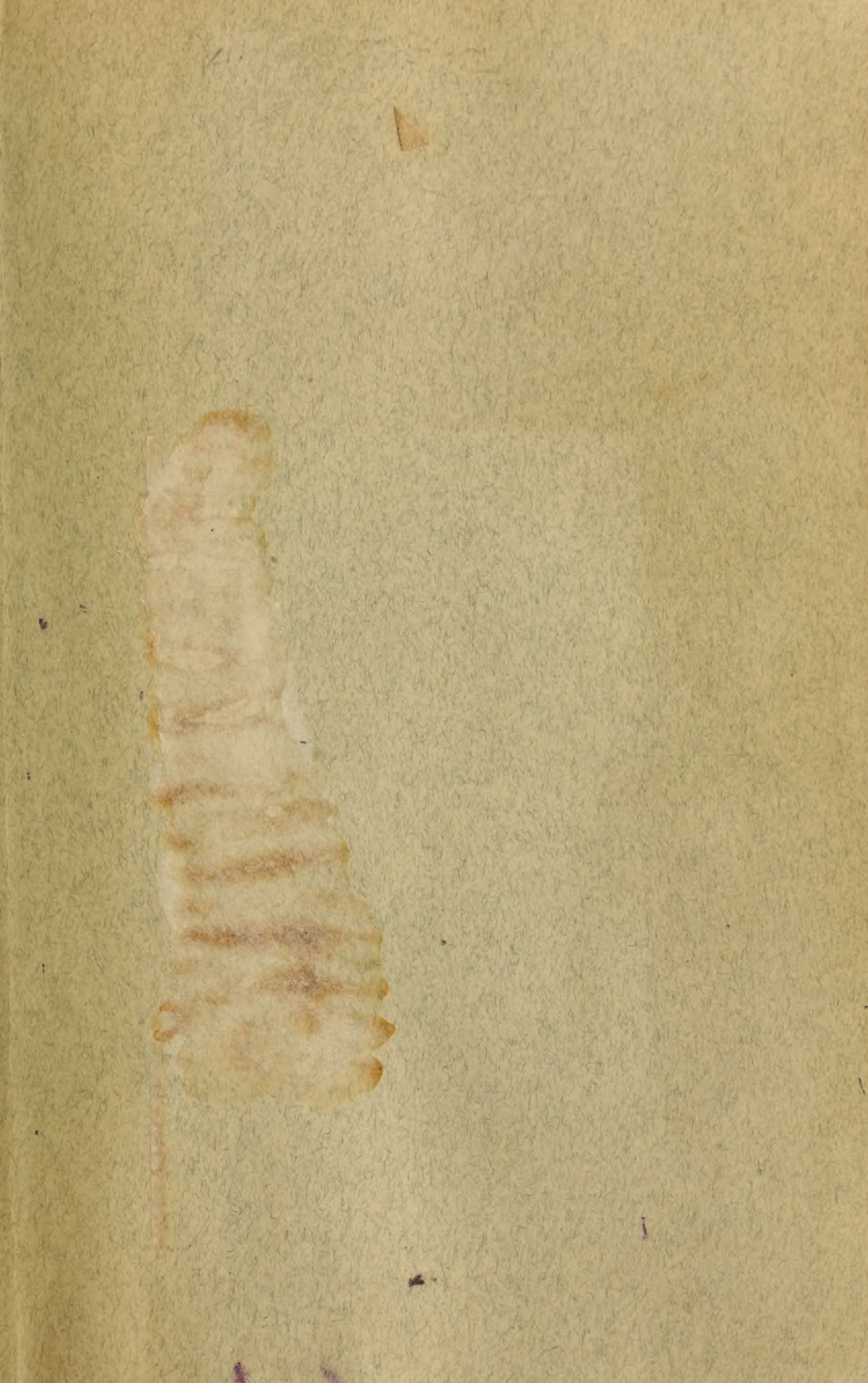
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CAMERA CRAFT

A Photographic Monthly

George Allen Young, Editor

401191

Volume XLII January to December, 1935

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"On The Ramparts of Ragusa"

18th Los Angeles International Salon

William Howard Gardiner



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JANUARY 1935
VOL. XLII Number 1
SAN FRANCISCO
• CALIFORNIA •
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In This Issue

PORTRAITURE FOR MINICAMS . William Mortensen
WINTER PHOTOGRAPHY Ansel Adams
NIGHT PHOTOGRAPHY Cecil R. Nelin
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"Barbara McGee—Pala Reservation"

William Mortensen

*Miniature negative. Brilliant sunlight.
12 noon. Subject in partial shadow.
Reflector used.*

Notes On The Miniature Camera

William Mortensen

III. Outdoor Portraiture

ONE of the unsung heroines of the early days of photography was Dorothy Draper. In New York, one day in the summer of 1840, she sat, her face whitened with rice powder, for twenty immobile minutes under the noonday sun while her brother, Dr. John W. Draper, took the picture that initiated the art of photo-portraiture.

Since that event photography has simultaneously grown much easier and much more complicated. Photographers before long moved indoors and took their portraits by the soft diffused illumination of a north skylight. About twenty years ago electricity invaded the studios, and photographers proceeded to go quite light mad. Studios everywhere blossomed out with lights of every imaginable size and shape, squirting their rays at the terrified sitter from all angles. We had front lights, top lights, back lights, rim lights, cross lights, spot lights, umbrella lights, arc lights, mercury lights, incandescent lights, Cooper-Hewitt lights and Kleig lights. We had lights in banks, in tiers, in borders, in clusters; lights singly, lights in pairs, and lights *a trois*. In short, we had lights. But no sunlight. This familiar source of illumination was regarded as altogether too crass, common and vulgar to use for taking a picture.

As a matter of fact, the sun furnishes the finest possible photographic light. Photographers, awaking with severe hangovers after their electric debauch, are beginning to return gratefully to Dr. Draper's illuminant. Dorothea Lange has used it to secure pictures that are eloquent social comments. With it Atget performed his unpretentious documenting of Paris, and Dr. Grabner portrayed his magnificently modelled nudes.

Daylight only, has of course, been Misonne's medium for his idealization of Flemish lanes and streets. And the best cinematographic photography—that of Tisse in "Thunder Over Mexico"—was accomplished with no artificial light.

By "outdoor portraiture" I mean, briefly and obviously, the taking of *portraits* out of doors. This means a picture in which a personality dominates, and of which the natural background is an integral but subordinate part. This definition sets it off on the one hand from the "landscape with figures," and on the other from the well-known snapshot type. Very definitely, outdoor portraiture has nothing to do with Cousin Ella at Grant's tomb or Uncle Egbert at the Grand Canyon.

Many, having in mind the appalling results of conventional snapshots, are fearful of attempting portraits outdoors. These results are all too familiar—overpowering contrast, burnt-out light areas, shadows that are black holes, and obtrusive, irrelevant backgrounds. Sunlight is not an easy illuminant to use. Skill and understanding are needed; but no more than are required to manipulate front lights, top lights, back lights, etc., etc.

Outdoor portraiture introduces problems new and unfamiliar to one who has always worked under studio conditions. The choice of the time of day and a propitiously cloudy sky becomes important. The inside worker must also spend some time and film in acquainting himself with new exposure data, and try to cultivate a fresh sensitiveness to light quality. The outdoor portrait also brings up unaccustomed problems in composition. Not only must the figure or head be correctly placed relative to the direction of the light, but it must be effectively combined with the background. This will suggest much adjustment and experimentation. The lines and masses of the background must be made to contribute to the domination of the personality of the subject. Thus backgrounds should be avoided that are in themselves too important or dynamic. Also to be avoided are distracting backgrounds with broken patterns of light and dark, and equivocal backgrounds that do not immediately reveal themselves for what they are. Not only must the background be subordinated to the subject, but its relationship to the subject must be clear and *justified*... To portray a woman in an evening gown with pine woods behind her (to choose an extreme instance) would certainly violate this principle. Perhaps it is in the representation of the nude out of doors (to which I will return in a later article) that photographers most frequently and horribly fail to justify the relationship of the background to the subject. All too often do we find ourselves speculating just how the young lady attained her position without scratching her delectable limbs and just which bush conceals for the moment her garments.

Another problem of composition that outdoor portraiture frequently introduces is the matter of camera angles. By shooting uphill or downhill the subject may be outlined against the sky or placed against a background of mountains or foliage. Camera angles that might appear freakish or affected if used indoors seem entirely natural and logical in outdoor work.



"Por la Mañana"

William Mortensen

Miniature negative. Diffused sunlight, 9 A.M. No reflector

The miniature camera is, of course, particularly suited to coping with the peculiar problems and conditions of outdoor portraiture. Happy coincidences of place, time and subject are instantly available to the small camera, and are recorded and wrapped up while the medium sized reflex is just beginning to get under way. And a large sized camera out of doors is as convenient to carry around, and about as useful for photographic purposes, as the kitchen stove. The brilliant finder of the miniature camera reveals the subject and background on a single plane, enabling one to quickly judge and establish *notan* and composition values. The ground glass of the reflex, on the other hand, shows the background dimly or not at all. The short focal length of the lens of the minicam is similarly advantageous, in that its depth of field tends to treat subject and background as a single plane creating a *notan* pattern.

In addition to the camera itself little equipment is required. The only lens necessary or advisable is the 50 mm., one that is the standard stock equipment of all minicams. A hood is needed, of course, for outdoor work. Also a K2 filter (but no other). Be adequately provided with film magazines, preferably not less than six. Par-speed panchromatic film is used. A tripod is unnecessary; in fact, its use is quite contrary to the spirit of the method of working I shall presently describe. Prudence will suggest the advisability of a strap for the camera. The only other equipment needed is a large white dish towel and a small shaving mirror.

To the person who owns five lenses and a dozen filters this equipment may seem very puny and poverty stricken. But if his interest is genuinely in the taking of pictures and not in the juggling of gadgets, he would do well to put aside such play things.

No one since Joshua has been able to control the light of the sun with any degree of success. The secret of daylight portraiture lies not so much in controlling as in adapting and taking advantage of the particular illumination of the moment. These methods of adaptation include the use of filters, reflectors, and panchromatic film. The combination of the K2 filter and panchromatic film (which has been used in all the accompanying illustrations) gives brilliance to the flesh tones and differentiates them from the tones of the sky. The use of reflectors reduces the denseness of shadows and enables one thereby to expose for the light area without losing the picture in the shadow area. The above mentioned dish towel, hung over a bush or held by an assistant, serves admirably as a reflector. In taking a picture in the shade it is sometimes advantageous to bring in a small spot of illumination for sake of accent or high-light. At this point the shaving mirror comes into play.

That which we broadly classify as "sunlight" is really an infinite variety of lights, varying enormously in intensity and changing in strength every moment of the day and altering in quality with every passing cloud. From sunrise to high noon (according to the data of W. Abney) the actinic intensity of the sun increases 60,000 times. To catalogue and classify these innumerable mutations is manifestly impossible, and if accomplished would serve no useful purpose to the practical worker.



"Adelita"

William Mortensen

Miniature negative. Slanting sunlight, 4 P.M. Reflector used.

I will simply mention a few of the varieties of daylight that are particularly happy for outdoor portraits.

The first variety is direct, brilliant sunlight, unmitigated by any clouds or shade, which is adaptable to subjects that admit of bold, craggy modelling. Although outdoor portraits allow a more contrasty lighting than would be sanctioned in studio practice, this type of light should not

be used between the hours of 10 A. M. and 2:30 P. M. During this period the sun is so high that it hides the eyes in black pits, and is of so great an intensity as to be unmanageable.

The sun in the early morning or just before setting has a warm brilliance that gives a luminous quality to shadows. This light is particularly excellent for rendering nude figures. Shortly after sunset, if there are large cumulus clouds in the sky, the atmosphere is penetrated with a strangely penetrating glow that, if taken at the precise moment, will give an exceedingly delicate rendering of half tones.

When the sun is high, and direct sunlight becomes too harsh, the subject may be photographed in partial shade or in light that filters through foliage. This filtered light penetrates well into the shadows, and by taking a little care in arranging the subject, one may obtain an effectively placed accent of light of the point of greatest thematic interest. This was the lighting employed for "Barbara McGee."

When the sun is obscured, but the sky is full of white clouds, one discovers an illumination that, although boldly contrasty, so moderates the shadow areas that no reflector need be used.

If a high fog covers the sky, an extremely soft lighting prevails which is good at all times of the day. This light at its best is not devoid of direction, but soaks luminously into all the shadows. In this connection I should mention that moment which Leonard Misonne has characterized as the most breath taking instant of the day—the moment when the sun begins to break through early morning fog. Without losing its softness, the light at this moment suddenly assumes a dramatic quality.

At the beach or on the water the light is often excessively bright, and requires careful handling. Under these conditions, however, there is a brilliant reflection from sand and water that yields finely modelled portraits. This is the lighting of "The Young Pirate."

In all its varieties and mutations outdoor lighting holds to a singleness of *spirit*. This spirit may be summed up in three words: sincerity, directness, and boldness. Traditionally, the light of the sun is revealing of falsehood and sham. In portraiture it shows up fatally any artificiality of subject or photographer. Automatically it eliminates from consideration certain photographish tricks. It would be out of keeping and futile, for example, to try to put over a delicate effect in an outdoor portrait. The spirit of sunlight counsels direct speaking: hence the strong illumination should fall on the strong thematic interest, and such palpable and boob-catching trickery as side-lights and rim-lights should be shamefacedly abandoned. The use of diffusion devices in this connection surpasses the limits of my vocabulary of invective. As an expression of utter perversion of taste the practice is comparable to adding sugar to a dry wine. Likewise, anything that smacks of deliberate posing, or of decorative stuff of the *crepe de chine* school, is immediately thrust beyond the pale by the searching honesty of the light of day.

Now for a few words on procedure. Have always plenty of film. Never go out to shoot pictures with less than six fresh magazines. Two



"Soil"

William Mortensen

Miniature negative. Diffused sunlight, 10 A.M. No reflector.



"Young Pirate"

William Mortensen

Miniature negative. Bright sunlight on beach, 3 P.M. No reflector

degenerate in unhealthy confinement. The whole group is an abomination and a stench in the nostrils of honest people.

No such charge may be brought against the rejected pictures of the outdoor group. They simply, in composition or photography, fall below the high standard set by the rest.

With what gratitude one turns to the rest of this outdoor group! All pomp and pretence is burned away in the light of the sun, and we find direct statement, dignity, and power. And the ancient photographic virtues of GRADATION and DEFINITION are restated and reaffirmed.

LIGHT is the great First Cause of photography. Even as the Zoroastrians, who recognized the Sun as the source of all good things, the photographer should turn in adoration to the father of all the lights of heaven and earth. We may imagine the Sun speaking to his strayed followers in the forthright terms of the old prophet:

A wonderful and horrible thing is committed in the land; for they have perverted their way.

Return, ye backsliding children, and I will heal your backslidings.

Winter Photography

Ansel Adams

THE first fall of snow in the Sierra Nevada creates a new and incredible world—a world of scintillant whiteness and extraordinary texture. The snow drifts quietly and delicately on summit and forest, stone and twig—on the needles of evergreens and on the dry stalks of forgotten summer. A new complex of pattern is revealed, a new scale of values invoked from the familiar forms and prospects of the scene.

The Western photographer, unless he is fortunate enough to travel to other snowy regions of the world, has had little to do with winter as subject material. It is only of late that the Sierra has been made accessible in the depths of winter; there are still vast areas that only the hardiest should dare to invade on ski and snowshoe. In Yosemite, which is easy of access and most favorable to winter photography, the photographer will find a bewildering wealth of subject material within only a mile or so from the accommodation centers on the floor of the valley. Or he can motor to the Mariposa Grove of Big Trees, or along the new Glacier Point Road to Badger Pass where impressive vistas of the high Sierra are obtained and where he can enjoy exciting skiing. He need never fear repetition of subject; the scene is always changing, literally from hour to hour. Storms are not frequent and the National Park Service maintains snow plough equipment which keeps the roads open and safe at all times. Conditions are always favorable to living with pleasure and working with accomplishment.

The types of photography possible in Yosemite in winter are many and varied. From expansive landscapes to minutiae of snow-powdered detail, from the quiet grandeur of mountain and forest to the thrilling sport of skiing—there is nothing in Yosemite, static or dynamic, which is not an offering of interest and beauty for the photographer.

In giving a simple resume of photography in Yosemite in winter I will mention clothing, apparatus, procedure, and locations in their respective order:

1. Clothing: Comfort is essential to pleasure and good work. In

Arctic or high Alpine regions there is the grave danger of frost bite and freezing; not so in Yosemite, where the day temperatures are never disagreeable. However, if one spends a good part of the day in snow he may become damp and chilly unless he is properly dressed and booted. A pair of stout water-proof shoes (ski-boots, of course, are preferred) and two pairs of warm socks should be worn in the field. Regular ski pants are advised. Ordinary underwear, a woolen shirt, a warm jacket, mittens, and suitable headgear complete the clothing requirements. Advice on these matters can be obtained from any good winter sports store. All outing equipment may be purchased or rented in Yosemite Valley. Clothing is important; nothing is more destructive to enthusiasm, patience and imagination than cold damp feet and skin.

2. Apparatus: The camera should not be heavy or cumbersome; it is difficult to carry ponderous equipment through snow and doubly difficult to set up heavy tripods. I use chiefly my 4x5 Speed Graphic and medium weight tripod, occasionally a Folmer Universal 8x10 and heavy tripod. It will be found convenient to work as little with tripod as possible; anyone who has undertaken tripod setting-up exercises in deep snow will appreciate this statement. If the tripod is equipped with 4- or 6-inch ski pole ends on each foot the problem is simpler. The carrying case should be firm and water proof; it should stand resting on snow or ice without injury to itself or contents. The remainder of the equipment is as follows: Film or film-pack holders, good focussing cloth, filters, and exposure meter. There should be an adequate supply of lens paper to wipe moisture from the lens (snow falls from trees and blows in the wind, striking the lens as small drops or crystals). A lens-hood is a great help in this difficulty. It is also advisable to carry absorbent cloth to wipe camera and holders if required. Regular lens equipment will do, but a large aperture lens is needed for action pictures (skiing, skating, etc.)

Procedure: I have found the super-sensitive type negative material most favorable to snow photography. As the prevailing color or tone of snow (in shadows) is blue or blue-green, a film that is hypersensitive to blue, such as the old type of ordinary film, flattened and weakens textures to a considerable extent. (Snow texture is largely the mixture of minute areas of illuminated and shadowed snow.) Adequate rendition of textures is essential in snow photography, otherwise a definitely unpleasant flat surface is produced. Also, snow against sky is very much whiter than sky, and the panchromatic rendering of sky-tone aids in the separation of snow and sky values. The use of heavy filters is not advised. It will seldom be necessary to use other than a K1 or K2 filter in landscape work, and a K1 usually suffices in close work. Over-correction results in harshness—snow texture becomes granular and hard, and dark objects (trees, rocks, etc.) appear too black. Of course, in long-distance and telephoto pictures a stronger filter is useful at times.

It must always be born in mind that the snow-scene may present quite strong contrasts—trees, rocks, figures, etc., against sun-lit snow are usually very dark in comparison with the snow, and the exposure must be judged most carefully. I favor slight under-exposure and 10



"Winter--Yosemite Valley"

Ansel Adams

8x10" Folmer Universal; 12" Dagor; E.K. S.S. Pan., No filter; slightly less than normal exposure, and slightly more than normal developing time in A.B.C. Pyro, with $\frac{3}{4}$ normal carbonate.

to 25 per cent over normal developing time in a Pyro developer (D 1) with about $\frac{3}{4}$ normal carbonate content. This procedure gives more brilliant results than the conventional over-exposure and under-development of contrasty subjects. The reduced carbonate content restrains the highlight density and the slightly increased time of development insures full development of the shadows. Snow negatives should never be very "strong." The use of papers of shorter scale, with such negatives, admits of considerable control of tonal values. Most of my snow pictures have been exposed and developed in this manner. In developers other than Pyro I suggest more normal exposure and slight under-development. But after all, individual preference controls; procedure depends on what the photographer visualizes the final print to be.

Working in the shade—on overcast days or in storm—a different problem is encountered. Snow in flat or diffused light is *grey*... A light-grey it is true, but still a grey and very different in quality and intensity from sun-lit snow. Under these conditions it is necessary to give full exposure and normal development in order to prevent unpleasant weakness of tone; either muddy and too grey, or chalky, dead white (when development is forced), which obtains from the under-exposure of snow in shadow or flat light. The photographer will find that snow photography under these conditions is about the most difficult thing to do. Yet some marvelous effects are possible. It will be found especially difficult to photograph shadowed snow against blue sky—great care must be taken to avoid rendering snow and sky in equal tonalities. In this case it would be better to use a blue sensitive film and render the sky *lighter* than the snow. Snow against clouds when both are either in full sun or full shadow is equally hard to manage, and only critical balance of exposure can solve the problem. It should be remembered that shadows on sun-lit snow are quite different than snow entirely in shadow—in the former case the shadow tone may be much deeper than in the latter.

As I have said snow has texture, and, as in all textural subjects, the direction of the light is an important factor. Avoid as much as possible photographing with a back-light. Photographing *into* the light too sharply may result in disappointment as the glare is often unmanageable. Early morning or afternoon light is the best, but bear in mind that the sun is rather low in the south all through the winter and that the days are not long.

Perfect focus all over the plate is important—there is nothing more disturbing than to see the essential and delicate textures of snow mussed up by inaccurate focussing.

Photographing an actual snow storm (attempting to catch the falling flakes) is usually quite disappointing. The general tone is grey and the distant falling snow appears as mist. I have never been successful in this particular subject, but I feel that it is entirely possible nevertheless.

Perhaps the most important problem in snow photography is to determine the proper print value for sun-lit snow. It is by no means a pure dead white in spite of its intensity. I have discussed the problem of the rendering of whites in my recent articles in *Camera Craft* and will not go into it at length here. I believe that as even the whitest



"Winter—Yosemite Valley"

Ansel Adams

8x10" Folmer Universal; 12" Dagor; E.K. S.S. Pan.; no filter; full exposure, normal development, in A.B.C. Pyro.



"Fast Jump Turn—Landing"

Ansel Adams

2¼x4¼" Speed Graphic; 5" Tellar; 1/1000 sec. at F:8, on Gevaert Film Pack; no filter; slight over-development in A.B.C. Pyro; enlarged 5x.

object reveals substance and texture it should always be rendered *below* the tone of the paper on which it is printed. The pure white of the paper is not a *photographic* tone. Substance and texture is implied in rendering the whitest part of the image as a barely perceptible grey. Brilliance is suggested by lowering the tones of the other parts of the image with more or less exaggeration of depth of tone. It is the emotional contrast that is always required—not merely the photometric contrast. The reader is reminded that the photographic emulsions are incapable of rendering with photometric accuracy the extreme range of visual light intensities. A compromise must be effected with emotional objectives in view. I prefer, as always, black and white glossy prints displayed under glass as the best medium for the presentation of winter pictures.

Locations for work in Yosemite:

1. Landscape: Along any of the main roads of the floor of the valley (4000 feet) from snow line—usually beginning near Cascade Falls—to the upper limit of open roads. There is beautiful material

for open landscape at Stoneman Meadow, Lydig Meadow, Valley View, and the Wawona Tunnel entrance, and near the old Village. Fine rock-and-snow material may be found east of Rocky Point, along the river below Valley View. Interesting water and ice material may be found at the river banks and at the bridges. Forest material is everywhere. There are great possibilities in the Mariposa Grove of Big Trees. At Wawona there is very interesting subject material—landscape and early California buildings. Distant landscapes of the High Sierra may be obtained from Badger Pass on the Glacier Point Road.

2. Action: In Yosemite Valley proper there is skating, sleighing, cutter riding and the toboggans. At Badger Pass there is splendid skiing, and many opportunities to photograph ski action.

3. Winter Mountaineering: It must be understood that the National Park Service and the operators in Yosemite provide all facilities for reasonable travel and activities. The upper regions of Yosemite National Park, spectacular and beautiful as they are, are not as yet available to the general public. Only the trained mountaineer with full and adequate equipment should attempt excursions to these regions in winter. As the enthusiasm for winter activities grows in the public mind more of this territory will be made available, and more wonderful photographic material will come within reach of the active photographer. At the present time the Yosemite areas open to the public are unsurpassed. The photographic possibilities have not been touched.

Travel conditions are always good; Yosemite is as accessible in winter as it is in summer. Information is easily obtainable. A few practical hints:

1. Unless anti-freeze is in the radiators drain automobiles at night and when they are to stand for long on a coolish day.

2. Clean and adjust focal-plane shutters before winter use, dirt and oil may cause them to act sluggishly in cold weather.

3. After exposure, replace cut films in boxes with black-paper slips between them to guard against possible deterioration from moisture.

4. Thoroughly dry out cameras and case every night after a day in the field, and wipe off tripod.

5. Keep notes of every exposure for future reference.

An additional illustration by Mr. Adams will be found on page 29:—Ed.

Night Photography

Cecil R. Nelin

UNTIL recently cameras were put away at dusk unless one used flash powder with its accompanying mess, smoke and noise. Tungsten lights were of little value because films and plates then in use were not very sensitive to their rays, rendering exposures too long for practical work in most cases. High speed lenses were developed to remedy this but their high cost, together with such disadvantages as great bulk, weight and shallow depth of field prevented their widespread use.

In 1930 new sensitizers were discovered and in 1931 the present type of high speed panchromatic films and plates were placed on the market. Especially sensitive to tungsten light these were two to four times faster under such conditions than materials previously available. Subjects previously impossible became commonplace. Miniature cameras with exceptionally fast lens became popular about the same time and with the new films furnished an ideal medium for night photography.

Today pictures may be made in stores, clubs, cafes, theaters, and hundreds of other places *without additional lighting* by using a lens between $f: 1.5$ and $f: 3.5$ with the new emulsions. Lens speed is the greatest limiting factor. Since speed varies inversely as the square of the stop a small difference in stop number may mean two or three times more speed. For example: $f: 1.5$ is almost twice as fast as $f: 2.0$. At present $f: 1.5$ is the fastest lens available on the open market in America but in Germany a lens with the phenomenal speed of $f: 0.95$ has been developed and used with a still camera using 16 mm film. A telescopic finder was used and the lens was much larger than the tiny camera to which it was attached. This lens is more than twenty times as fast as the $f: 4.5$ and about two and one-half times as fast as the $f: 1.5$.

Along with a fast lens, shutter speeds of one-half to one-fiftieth second will be needed. Since the slow speeds have been added I favor the focal plane shutter, as it is slightly more efficient than the between-lens type, particularly at higher speeds.

A miniature camera is ideal for this work. It is easily handled and exposures may be made without attracting attention, resulting in natural, unposed pictures. Automatic film changing is a great advantage when working in semi-darkness and inter-changeable lenses are often very useful. In theatrical and sports work the light is often strong enough to permit use of a telephoto lens working at $f: 4$, or $f: 4.5$. By increasing image size the degree of enlargement is reduced, thereby helping to eliminate trouble from grain which is more noticeable in high speed emulsions. These lenses also give better perspective since it is not necessary to work at close range to secure a large image.



"Theater Time"

Cecil R. Nelin

Fig. 2

1/10 sec. at f:4.5, Supersensitive Panchromatic Film

There are also many larger cameras on the market with f: 4.5, f: 3.5 and f: 2.7 lenses. These are capable of many excellent night pictures. The pictorial possibilities of an f: 4.5 lens, *used intelligently*, are astounding.

There are a few accessories which add greatly to the pleasure and success of night photography, yet are comparatively inexpensive. A good tripod with a tilt top, exposure meter, lens hood, X-1 or X-2 filter, long cable release and a small pocket flashlight are the most essential items. A range finder should be added for use with cameras not equipped with one since focusing high speed lenses is not a matter for guess work if best results are to be secured and measurements are not always possible.

The tripod should be easily set up and it should be very rigid at all times. Overloading a tripod will often cause vibration which may not be apparent in a contact print but will render an enlargement worthless. I have made successful exposures of one-half second by bracing the camera firmly against some vertical surface but such procedure is not advisable. Use a tripod for low shutter speeds whenever possible. For small cameras a ball and socket joint is very useful, since it is not always possible to level the tripod. Unfortunately such heads are not strong enough for the larger cameras but a tilting or panoramic top may be used instead.

An exposure meter is a great saver of time and material that would otherwise be wasted under impossible light conditions. The actinic meters which depend on the darkening of a strip of paper and the calculating types are useless for this work. Manufacturers of some visual meters recommend making an adjustment in light value when the meter is used with artificial light but I find this is seldom necessary because the sensitivity of the super pan films corresponds very closely to that of the eye.

A good lens hood will do much to eliminate fog, flare and ghosts produced by lights outside the picture area. It is especially needed with high speed lenses and should be as long as possible, covering an angle only slightly greater than that of the lens.

Filters are seldom used because of the increase in exposure they demand. Conditions permitting, an X-1 or X-2 filter may be used with super pan films, otherwise there is a tendency to render the reds much lighter than they appear to the eye.

The cable release should be long enough so that hand and arm may be held in a comfortable position while waiting for the proper moment to make the exposure. It will help greatly to reduce vibration and jar.

At present there are many films and plates on the market with a speed of 23° Scheiner or greater. Here is a partial list of the faster films and plates on the American market:

FILMS

Eastman Supersensitive Panchromatic, Defender X-F Panchromatic Special, Agfa Supersensitive Panchromatic, Agfa Supersensitive Plenachrome, Gevaert Express Roll Film, Perutz Persenso, Voigtlander Illustra Rolls & Packs.

Plates—Eastman Hypersensitive Panchromatic, Ilford Hypersensitive Panchromatic.

35 mm movie film—Dupont N.H. Super Pan, Eastman Supersensitive Panchromatic, Agfa Supersensitive Panchromatic, Agfa Fine-Grain Plenachrome, Perutz Persenso.

Outdoor genre work is the most interesting, as well as the most difficult, form of night photography. Peculiarly a clear night is the most unfavorable time for such work. I prefer nights when there is a mist or light rain. Light is reflected by the wet streets, shortening exposures while reflections add to the beauty of street scenes. Mist produces



Fig. 1
1/5 sec. at f:4.5, Supersensitive
Panchromatic Film



Fig. 5
A divided exposure of about thirty seconds at f:5.6 forty-five minutes after sunset and a fifteen second exposure at the same stop half an hour later to secure lights.

beautiful atmospheric effects, softening the harsh glare of open lights. It also tends to avoid an unnatural empty blackness in many parts of the picture, particularly the sky, and imparts an air of mystery. Snow on the ground will greatly increase the reflected light and shadows, which ordinarily blend with the darkest parts of the print, will usually be very prominent. In most cases striking effects may be produced, particularly when the subject is strongly backlit. Even low-hanging clouds will sometimes reflect enough light to avoid an empty black sky. Although it may appear to be of considerable intensity, moonlight is practically worthless in a photographic sense. In all work disregard open lights unless there is danger of excessive halation or flare.

Window shoppers furnish good material and may be photographed in silhouette against the display window or in detail by light from other windows or street lamps. "Window shopping." Figure 1. was made at a speed of one-fifth second at f: 4.5 on supersensitive panchromatic film. The subject was so interested in the display that he was not aware of the fact that a picture was made. The display is easily photographed without trouble from reflections by placing the lens mount of the camera firmly against the glass and making the exposure. If the mount does not project beyond the lens sufficiently an extension should be used to protect the front element. Avoid times when there are heavy trucks or other traffic that might cause vibration of the window and stop down

as much as possible for sharpness. Remember that exposures of several seconds may be given if the camera is held firmly against the glass.

The theater offers great possibilities. Pictures may be made under the marquee with speeds that are more than ample to stop ordinary motion. "Theater Time," Figure 2, was made at $f: 4.5$ with an exposure of one-tenth second on supersensitive pan, and "The Movie," Figure 3, was given 6 seconds at $f: 6.3$ on Verichrome film. Figures of stage subjects may be made with exposures from one-fifth to one-fiftieth second while in some cases the telephoto lens may be used to produce large images. Do not sit in the middle of the theater or a flat lighting will result. Take a position to one side, preferably in a box or in the balcony, so that the camera is higher than and to one side of the stage. "The Red Shadow Sings," (Figure 4) was made from a box with one-fifth second at $f: 4.5$ on supersensitive pan film. A film that is supersensitive to green instead of red is an advantage in this work since it gives better rendering of flesh tones in the glare of a spot light.

Sporting events are well lighted but difficult subjects because of the fast action which demands high shutter speeds. Many interesting pictures may be made at boxing and wrestling matches, hockey games, basketball games and other indoor contests. Even in the fastest action there is often a slight pause or hesitation when a comparatively long exposure may be given by the alert photographer. Here again the telephoto lens will prove invaluable when light conditions permit its use.

Interesting architectural views may be made at twilight by divided time exposures. To avoid excessive contrast from open lights make part of the exposure shortly after sunset while there is enough light to record shadow details. After darkness falls make a second, shorter exposure to show the lights. A rigid tripod is an absolute necessity and the camera should not be touched between exposures. "Dusk," Figure 5, was made in this manner with exposures of thirty seconds at $f: 8$. forty-five minutes after sunset in August and 15 seconds at the same stop half an hour later to render the lights. There is also a time after sunset when daylight and artificial light are so well balanced that a single exposure will have all the appearance of a night scene plus shadow detail that would otherwise be hidden.

Development presents an unusual problem. Portions of the negative, the highlights, will be over-exposed while other portions, the shadows, will be under-exposed. Contrasts are great and often beyond the range of any printing medium. Development must, therefore, produce satisfactory detail in both highlights and shadows without excessive contrast while the least trace of chemical fog may mask fine shadow detail. Almost any developer of the non-fogging type may be used with good results by merely reducing the amount of carbonate or alkaline accelerator and increasing the development time. Many fine grain developers do not produce good shadow detail in this work so a compromise must be effected between grain size and shadow detail. In pictorial work diffusion is often used in the enlarging process so grain should not be a great handicap unless it is excessive. Hydroquinone is unsuitable as it builds up excessive density in the highlights which it



Fig. 3
6 sec. at f:6.3 Verichrome
Roll Film



Fig. 4
1/5 sec. at f:4.5 Supersensitive
Panchromatic Film

develops first. Metol, with a minimum of alkali, is an ideal agent. It develops the image evenly so that shadow detail is fully developed before the highlights become excessively dense. Remember that a stale or spent developer does not bring out all the detail present in the film, so that much of the speed of the film is lost.

Best results in miniature camera work may be secured by using a soft developer with a minimum of grain and further reduction of contrast by use of a soft printing paper. In some cases it might be well to make an intermediate film or plate positive, retouching wherever necessary and then make a copy negative on which further work may be done and from which the print is made. Paper negatives may be used to advantage in pictorial work where diffusion is not objectionable. Trans-lite paper is a good material since short exposures in enlarging may be used and the grain of the paper stock is eliminated by its special design. In using other papers place the back so that the rays must pass through the paper stock before reaching the emulsion. The negative will appear mottled and grainy but by printing in the usual manner, i. e., emulsion to emulsion, little grain is apparent in the finished print. Retouching should be done on the back of the paper negative.

Remember the limitations of your equipment and do not try the impossible too many times. It is true that half the fascination of night photography lies in subjects on the borderline of possibility but wasting time and film on subjects that are obviously impossible will only cause a loss of interest. Better a few really good pictures than a hundred mediocre prints.

Photography As Means and Symbol

Lewis Mumford

Reprinted from TECHNICS AND CIVILIZATION, by Lewis Mumford, Copyright, 1934, by Harcourt, Brace and Company, Inc. The following extract is reproduced here because of its intrinsic interest to photographers in general, and because we seldom have an opportunity to read a carefully considered estimate of photography from the pen of an individual of Mr. Mumford's calibre. He is the author of several books in addition to the above, a Contributing Editor of The New Republic, and stands today as one of America's leading critics and historians.—ED.

THE history of the camera, and of its product, the photograph, illustrates the typical dilemmas that have arisen in the development of the machine process and its application to objects of esthetic value. Both the special feats of the machine and its possible perversions are equally manifest.

At first, the limitations of the camera were a safeguard to its intelligent use. The photographer, still occupied with difficult photochemical and optical problems, did not attempt to extract from the photograph any other values than those rendered immediately by the technique itself; and as a result, the grave portraiture of some of the early photographers, particularly that of David Octavius Hill of Edinburgh, reached a high pitch of excellence; indeed it has not often been surpassed by any of the later work. As the technical problems were solved one by one, through the use of better lenses, more sensitive emulsions, new textures of paper to replace the shiny surface of the daguerreotype, the photographer became more conscious of the esthetic arrangements of the subjects before him; instead of carrying the esthetic of the light-picture further, he returned timidly to the canons of paint-

ing, and endeavored to make his pictures fit certain preconceptions of beauty as achieved by the classical painters. Far from glorying in minute and tangled representation of life, as the mechanical eye confronts it, the photographer from the eighties onward sought by means of soft lenses a foggy impressionism, or by care of arrangement and theatrical lighting he attempted to imitate the postures and sometimes the costumes of Holbein and Gainsborough. Some experimenters even went so far as to imitate in the photographic print the smudgy effect of charcoal or the crisp lines of the etching. This relapse from clean mechanical processes to an artful imitativeness worked ruin in photography for a full generation; it was like that relapse in the technique of furniture making which used modern machinery to imitate the dead forms of antique handicraft. In back of it was the failure to understand the intrinsic esthetic importance of the new mechanical device in terms of its own peculiar possibilities.

Every photograph, no matter how painstaking the observation of the photographer or how long the actual exposure, is essentially a snapshot; it is an attempt to penetrate and capture the unique esthetic moment that singles itself out of the thousands of chance compositions, uncrystalized and insignificant, that occur in the course of a day. The photographer cannot rearrange his material on his own terms. He must take the world as he finds it; at most his rearrangement is limited to a change in position or an alteration of the direction and intensity of the light or in the length of the focus. He must respect and understand sunlight, atmosphere, the time of day, the season of the year, the capabilities of the machine, the processes of chemical development; for the mechanical device does not function automatically, and the results depend upon the exact correlation of the esthetic moment itself with the appropriate physical means. But whereas an underlying technique conditions both painting and photography—for the painter, too, must respect the chemical composition of his colors and the physical conditions which will give them permanence and visibility—photography differs from the other graphic arts in that the process is determined at every state by the external conditions that present themselves; his inner impulse, instead of spreading itself in subjective fantasy, must always be in key with outer circumstances. As for the various kinds of *montage* photography, they are in reality not photography at all but a kind of painting, in which the photograph is used—as patches of textiles are used in crazy quilts—to form a mosaic. Whatever value the montage may have derives from the painting rather than the camera.

Rare though painting of the first order is, photography of the first rank is perhaps even rarer. The gamut of emotion and significance represented in photography by the work of Alfred Stieglitz in America is one that the photographer rarely spans. Half the merit of Stieglitz' work is due to his rigorous respect for the limitations of the machine and to the subtlety with which he effects the combination of image and paper. He plays no tricks, he has no affectations, not even the affectation of being hard boiled, for life and the object have their soft moments and their tender aspects. The mission of the photograph is to clarify

the object. This objectification, this clarification, are important developments in the mind itself: it is perhaps the prime psychological fact that emerges with our rational assimilation of the machine. To see as they are, as if for the first time, a boat load of immigrants, a tree in Madison Square Park, a woman's breast, a cloud lowering over a black mountain—that requires patience and understanding. Ordinarily we skip over and schematize these objects, relate them to some practical need, or subordinate them to some immediate wish; photography gives us the ability to recognize them in the independent form created by light and shade and shadow. Good photography, then, is one of the best educations toward a rounded sense of reality. Restoring to the eye, otherwise so preoccupied with the abstractions of print, the stimulus of things roundly seen as things, shapes, colors, textures, demanding for its enjoyment in previous experience of light and shade, this machine process in itself counteracts some of the worst defects of our mechanical environment. It is the hopeful antithesis to an emasculated and segregated esthetic sensibility, the cult of pure form, which endeavors to hide away from the world that ultimately gives shape and significance to its remotest symbols.

If photography has become popular again in our own day, after its first great but somewhat sentimental outburst in the eighties, it is perhaps because, like an invalid returning to health, we are finding a new delight in being, seeing, touching, feeling; because in a rural or a neo-technic environment the sunlight and pure air that make it possible are persent; because, too, we have at least learned Whitman's lesson and behold with a new respect the miracle of our finger joints or the reality of a blade of grass: photography is not least effective when it is dealing with such ultimate simplicities. To disdain photography because it cannot achieve what El Greco or Rembrandt or Tintoretto achieved is like dismissing science because its view of the world is not comparable to the visions of Plotinus or the mythologies of Hinduism. Its virtue lies precisely in the fact that it has conquered another and quite different department of reality. For photography, finally, gives the effect of permanence to the transient and the ephemeral: photography—and perhaps photography alone—is capable of coping with and adequately presenting the complicated, inter-related aspects of our modern environment. As histories of the human comedy of our times, the photographs of Atget in Paris and of Stieglitz in New York are unique both as drama and as document; not merely do they convey to us the very shape and touch of this environment, but by the angle of vision and the moment of observation throw an oblique light upon our inner lives, our hopes, our values, our humours. And this art, of all our arts, is perhaps the most widely used and the most fully enjoyed: the amateur, the specialist, the news photographer, and the common man have all participated in this eye-opening experience, and in this discovery of that esthetic moment which is the common property of all experience, at all its various levels from ungoverned dream to brute action and rational idea.

What has been said of the photograph applies even more, perhaps, to the motion picture. In its first exploitation the motion picture empha-



"Winter—Yosemite Valley"

Ansel Adams

Illustrating "Winter Photography"

8x10" Folmer Universal; 12" Dagor; E.K. S.S. Pan., with K-1 filter; slightly less than normal exposure, and slightly more than normal developing time, in A.B.C. Pyro with $\frac{3}{4}$ normal carbonate.

sized its unique quality: the possibility of abstracting and reproducing objects in motion: the simple races and chases of the early pictures pointed the art in the right direction. But in its subsequent commercial development it was degraded a little by the attempt to make it the vehicle of a short story or a novel or a drama: a mere imitation in vision of entirely different arts. So one must distinguish between the motion picture as an indifferent reproductive device, less satisfactory in most ways than direct production on the stage, and the motion picture as an art in its own right. The great achievements of the motion picture have been in the presentation of history or natural history, the sequences of actuality, or in their interpretation of the inner realm of fantasy, as in the pure comedies of Charlie Chaplin and Rene Clair and Walt Disney. Unlike the photograph, the extremes of subjectivism and of factualism meet in the motion picture. *Nanook of the North*, *Chang*, the *S. S. Potemkin*—these pictures got their dramatic effect through their interpretation of an immediate experience and through a heightened delight in actuality. Their exoticism was entirely accidental: an equally good eye would abstract the same order of significant events from the day's routine of a subway guard or a factory hand: indeed, the most consistently interesting pictures have been those of the newsreel—despite the insufferable banality of the announcers who too often accompany them.

Not plot in the old dramatic sense, but historic and geographic sequences is the key to the arrangement of these new kinetic compositions: the passage of objects, organisms, dream images through time and space. It is an unfortunate social accident—as has happened in so many departments of technics—that this art should have been grossly diverted from its proper function by the commercial necessity for creating sentimental shows for an emotionally empty metropolitanized population, living vicariously on the kisses and cocktails and crimes and orgies and murders of their shadow idols. For the motion picture symbolizes and expresses, better than do any of the traditional arts, our modern world picture and the essential conceptions of time and space which are already part of the unformulated experience of millions of people, to whom Einstein or Bohr or Bergson or Alexander are scarcely even names.

In Gothic painting one may recall time and space were successive and unrelated: the immediate and the eternal, the near and the far, were confused: the faithful time ordering of the medieval chroniclers is marred by the jumble of events presented and by the impossibility of distinguishing hearsay from observation and fact from conjecture. In the Renaissance space and time were co-ordinated within a single system: but the axis of these events remained fixed, so to say, within a single frame established at a set distance from the observer, whose existence with reference to the system was innocently taken for granted. Today, in the motion picture, which symbolizes our actual perceptions and feelings, time and space are not merely co-ordinated on their own axis, but in relation to an observer who himself, by his position, partly determines the picture, and who is no longer fixed but is likewise capable

of motion. The moving picture, with its close ups and its synoptic views, with its shifting events and its ever-present camera eye, with its spatial forms always shown through time, with its capacity for representing objects that interpenetrate, and for placing distant environments in immediate juxtaposition—as happens in instantaneous communication—with its ability, finally, to represent subjective elements, distortions, hallucinations, it is today the only art that can represent with any degree of concreteness the emergent world-view that differentiates our culture from every preceding one.

Even with weak and trivial subjects, the art focusses interests and captures values that the traditional arts leave untouched. Music alone, heretofore, has represented movement through time: but the motion picture synthesizes movement through both time and space, and in the very fact that it can co-ordinate visual images with sound and release both of these elements from the boundaries of apparent space and a fixed location, it contributes something to our picture of the world not given completely in direct experience. Utilizing our daily experience of motion in the railroad train and the motor car, the motion picture re-creates in symbolic form a world that is otherwise beyond our direct perception or grasp. Without any conscious notion of its destination, the motion picture presents us with a world of interpenetrating, counter-influencing organisms: and it enables us to think about that world with a greater degree of concreteness. This is no small triumph in cultural assimilation. Though it has been so stupidly misused, the motion picture nevertheless announces itself as a major art of the neotechnic phase. Through the machine, we have new possibilities of understanding the world we have helped to create.

But in the arts, it is plain that the machine is an instrument with manifold and conflicting possibilities. It may be used as a passive substitute for experience: it may be used to counterfeit older forms of art: it may also be used, in its own right, to concentrate and intensify and express new forms of experience. As substitutes for primary experience, the machine is worthless: indeed it is actually debilitating. Just as the microscope is useless unless the eye itself is keen, so all our mechanical apparatus in the arts depend for its success upon the due cultivation of the organic, physiological, and spiritual aptitudes that lie behind its use. The machine cannot be used as a shortcut to escape the necessity for organic experience. Mr. Waldo Frank has put the matter well: "Art," he says, "cannot become a language, hence an experience, unless it is practiced. To the man who plays, a mechanical reproduction of music may mean much, since he already has the experience to assimilate. But where reproduction becomes the norm, the few music makers will grow more isolate and sterile, and the ability to experience music will disappear. The same is true with the cinema, dance, and even sport."

Whereas in industry the machine may properly replace the human being when he has been reduced to an automaton, in the arts the machine can only extend and deepen man's original functions and intuitions. In so far as the photograph and the radio do away with the impulse to sing, in so far as the camera does away with the impulse

to see, in so far as the automobile does away with the impulse to walk, the machine leads to a lapse of function which is but one step away from paralysis. But in the application of mechanical instruments to the arts it is not the machine itself that we must fear. The chief danger lies in the failure to integrate the arts themselves with the totality of our life experience: the perverse triumph of the machine follows automatically from the abdication of the spirit. Consciously to assimilate the machine is one means of reducing its omnipotence. We cannot, as Karl Buecher wisely said, "give up the hope that it will be possible to unite technics and art in a higher rhythmical unity, which will restore to the spirit the fortunate serenity and to the body the harmonious cultivation that manifest themselves at their best among primitive peoples." The machine has not destroyed that promise. On the contrary, through the more conscious cultivation of the machine arts and through greater selectivity in their use, one sees the pledge of a wider fulfillment throughout civilization. For at the bottom of that cultivation there must be the direct and immediate experience of living itself: we must directly see, feel, touch, manipulate, sing, dance, communicate before we can extract from the machine any further sustenance for life. If we are empty to begin with, the machine will only leave us emptier; if we are passive and powerless to begin with the machine will only leave us more feeble.

Cinema Section

Edited by

William A. Palmer

Spider Webs To Order

A new set is completed on one of the huge sound stages in a Hollywood motion picture studio. The set is new in every respect, constructed of new materials freshly painted. But the picture to be made calls for the set to look old and

dirty and full of spider webs, for it is the setting for a mystery drama.

Into this background of brand new construction come a group of "texture" artists who do the work of "aging" the set. They have many little gadgets and



*The spider web machine. Note
small holes in rim of cup.*

machines which they use as they go around making the woodwork look old and worn, putting very convincing stains upon the walls that might have been accumulated through years of exposure to human and climatic wear and tear. One of these artists has a most interesting little machine which, as he moves it around, spins the most beautiful spider webs. In the time of a minute or two he is able to make a display that would keep a good sized colony of spiders occupied for months.

Seeing the results of this mechanical spider, one would suppose that the machine must be a very intricate and costly device. But the fact is that it is very simple in principle and any amateur movie maker could make one to use in dressing up some of his sets which should look old and musty. Made to order spider webs are just the thing to add that necessary quota of spinal shivers for a mystery story and they can be used to give touches of comedy. Can't you see a scene of the town's laziest man as he snoozes under a

tree, a spider web from the tip of his nose to the ground?

The construction of the cobweb manufacturing machine is really very simple. It consists of a cup of sheet metal construction attached to the shaft of a high speed electric motor. An ordinary tin drinking cup without a handle would be suitable for this purpose. Around the edge of this cup are drilled a number of holes about one-sixteenth inch in diameter, eight or ten holes should be plenty. That's all there is to the machine, a very simple piece of construction. The motor can be an old electric fan, toy train, or washing machine motor and the cup can be almost any material or shape, with straight or flaring sides.

The material of which the webs are made is glue, the ordinary carpenter's cold wood glue. In operation, a glob of glue about a quarter to a half teaspoon in size is placed within the cup a short distance back from the holes around its edge. When the motor is turned on, the glue wanders out to one or two of the holes



Artificial Spider Webs

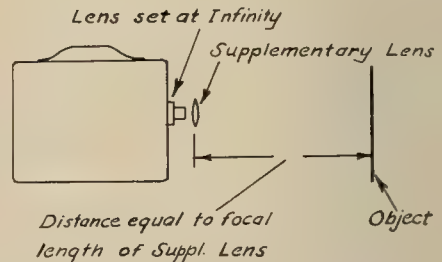
where it is thrown out by centrifugal force in a fine string or series of strings. As the motor whirls, the glue strings are thrown out in the air at right angles to the line of the rotating shaft and by moving the motor around in the proper place, the web can be made to form any place one wishes it. One must be careful to have glue that is not too thin lest it fail to spin into long enough strands. If the glue is too thin a small amount of it can be left in a flat dish exposed to the air for a while until it dries enough to behave properly.

The glue in its spider web form is exceedingly fine and dries practically instantly. It can be applied to articles to "age" them without any damage, for a damp cloth will remove it completely.

In the accompanying photographs, the machine and some of its work are shown. The device could be elaborated upon and made more convenient to manipulate by the addition of some sort of a handle.

Focussing For Close-Ups

In spite of all the fancy visual focussing devices which are supplied now on the more advanced moving picture cameras, there is still sometimes a need for obtaining absolutely accurate alignment, centering, and focussing of the image on the film. For title work, for exacting double exposures and for mask shots of one sort or another there is no substitute for being able to see the exact image which the objective lens creates on the film as it passes through the gate. The critical focussing devices enable one to focus accurately, but because their point of view is not coincident with the point of view of the "taking" lens, they do not give an accurate representation of the field to be photographed any more than does the regular finder. (The Cine Special



Use of Supplementary Lens

is the one exception which has a focussing and alignment device hooked up with the regular lens and will therefore show the exact field.)

We will then consider the means for

focussing in the aperture of the camera when it is to be set up for some work needing careful alignment. This is done before the camera is loaded. Because there is quite a little difference in construction between the different makes of cameras, the different makes will be mentioned separately.

With the Bell and Howell Filmo camera, in order to focus in the aperture, it is necessary to let the spring motor run down completely so that the shutter may be moved to an open position. When the spring is under tension the shutter is held in a closed position. The gate is opened and a small piece of ground film (the kind that comes as leader on processed film) is placed in the gate. The image formed by the lens of the camera can then be seen through the translucent surface of the small piece of film. Because one's eye must be outside of the camera box a mirror or prism should be used to see the image more clearly. There is manufactured for this purpose a small prism with a ground glass surface. As an alternate, a small mirror, like the ones used by a dentist to peer into awkward places, or a small piece of highly polished metal known as "chromaloid" may be used. The mirror is placed behind the aperture at an angle of 45 degrees with the plane of the film so that the light rays from the film are directed through a right angle bend toward the eye. The "chromaloid" referred to is chromium plated sheet metal and is obtainable from stores dealing in metal supplies. The polished metal surface has the advantage of giving a reflection from the single surface which has not the troublesome double outline of a glass mirror image. An added refinement is the use of a magnifying glass (a lens from the finder of an old Kodak is just the thing), which will help in obtaining a clearer view of the image on the ground film. With a bit of ingenuity, one can fix a little tube which will hold the lens and mirror in the proper positions when the tube is slipped in the gate and held up against the film.

Focussing in the aperture of a Victor camera is done in much the same way as

with the Bell & Howell except that the gate is removed completely from the camera by taking out the little screw which holds the gate on its pivot post. The shutter can be opened with this camera before the spring is completely unwound if the winding crank is held while the release button is depressed. The camera mechanism is allowed to move slightly until the shutter is opened. However, the winding crank must be held all during the focussing process. If this becomes too tedious, the camera had best be run down completely.

With the Eastman Cine Kodak, focussing in the aperture cannot be done so easily, for the fixed portion of the film gate is toward the rear of the camera and it is necessary to remove this stationary gate and file out an opening a little larger than the size of the aperture. When the gate is replaced in the camera then the image can be viewed through the rectangular opening with the aid of a mirror as with the two cameras mentioned above. This operation will not hurt the camera in any way but one will have to remember to close up the opening with a piece of black adhesive tape to guard against light leaks.

With the Simplex and Filmo 121 magazine cameras the focussing at the aperture can be done at any point during the running of a roll of film. Because one looks in at the rear of the camera directly behind the "taking" lens, no mirror is necessary. An empty film magazine can be reconstructed to hold a piece of ground film up to the aperture while allowing a view through holes cut in the magazine. A magnifying lens can be of help in this case also. In order to open the shutter of these cameras, the same procedure of letting the spring unwind can be followed.

With the several other makes of cameras, the procedure of focussing in the aperture can be accomplished in ways similar to those mentioned previously.

One might ask the question: "What is the use of these fancy focussing ideas with a camera having a fixed focus lens?" In most of the fixed focus cameras, the lens is fastened to the front of the camera in

a screw mount and by simply unscrewing the lens a turn or so, the lens may be focussed for distances closer than four or five feet. If the lens cannot be unscrewed, the use of supplementary lenses can be resorted to.

Many camera manufacturers supply supplementary lenses for their particular products, but often a make-shift can be used with good results. Almost any photographic enthusiast has a collection of lenses, some of which might be used in conjunction with the regular cine lens. The front or rear element of an old rapid rectilinear objective used alone makes a good supplementary lens or an optician

can supply simple double convex lenses in any focal length. It is only necessary to bear in mind the simple theory of the supplementary lenses: Any lens placed in front of the regular camera lens, which is either fixed focus or set at the infinity position, will cause an object to be in focus at a distance from the camera equal to the focal length of the supplementary lenses. The accompanying diagram shows this principle clearly. The focal length of a lens which one may want to use as a supplementary to the regular lens can be determined roughly by measuring the distance between the lens and the image of some distant object created by the lens.

Monthly Competition

Off to a Good Start

We are delighted to report that seven clubs entered the competition for the first time this month, and that the total of twenty clubs competing is greater than for any previous competition. This proves beyond a doubt the growing popularity of the club feature of these contests, and in addition we are glad to be able to say that for the competition as a whole, the number of prints submitted is steadily increasing, and there is a noticeable improvement in quality.

Contributing Clubs

Bakersfield Camera Club	Japanese Camera Club
California Camera Club	Los Angeles Camera Club
Cleveland Photographic Society	Monterey Peninsula Camera Club
Camera Club of Ottawa	Nashville Camera Club
Camera Club of Richmond (Va.)	Peoria Camera Club
East Bay Camera Club	Photographic Society of San Francisco
Erie Camera Club	Pictorial Photographers of Victoria
Fort Dearborn Camera Club	Saginaw Camera Club
Fresno Camera Club	Schenectady Camera Club
Golden Gate Leica Club	Utica Camera Club

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class:

H. F. Kells, for the Camera Club of Ottawa; Dr. Max Thorek, F.R.P.S., for the Fort Dearborn Camera Club; K. Wakasa, for the Japanese Camera Club; Claude J. Williams for the Los Angeles Camera Club; and Stanley R. Jordan, for the Photographic Society of San Francisco.

The following won points for their clubs in the Amateur Class:

Clair N. Fuller, for the Los Angeles Camera Club; H. C. Benedict, and Augusta Zachary, for the Photographic Society of San Francisco; and L. H. Shaw, for the Schenectady Photographic Society.

Standing of Clubs

Large Clubs Advanced Class		Large Clubs Amateur Class	
Los Angeles Camera Club	5	Photographic Society of San Francisco	7
Photographic Society of San Francisco	4	Los Angeles Camera Club	3
Fort Dearborn Camera Club	3	Schenectady Photographic Society ...	1
Camera Club of Ottawa	2		
Small Clubs Advanced Class		Small Clubs Amateur Class	
Japanese Camera Club	1	No Score	



"Fire Fighters"

Claude J. Williams

Advanced Medal Print

■ There is enough action in this picture to satisfy the most exacting, and Mr. Williams has caught it at just the right moment. Apparently the door has just burst open and the emerging billow of smoke, threatening to envelope the firemen, adds much of action and effectiveness to the scene. If the shot had been made a bit earlier, the action would not have been so intense or dramatic, and if made later the firemen would probably have been too much obscured by smoke. In such a picture it is a distinct advantage to have an accent that is clearly defined and strongly shown, as are the figures in the foreground. If the whole scene is smoke-filled it is difficult to evade a monotonous effect. The dimly seen figures in the background fit nicely into the composition, and help to add a sense of the third dimension that might otherwise be missing. We believe it is possible to obtain a more brilliant, richer print from this negative.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Butcher Reflex; $6\frac{1}{2}$ " Ross Express; $1/35$ th sec. at F:11, on Hammer Ortho plate, in Pyro-Metol; Agfa Ansco Cyco Enlarging paper, in Amidol.



"Jean"

Stanley R. Jordan

the head near the top of the print as it is now. This would cause more of the coat to show at the base, and whether or not this would introduce difficulties it is impossible to say without knowing what has been "framed" out of the whole negative.

Data: 4x5" Graflex; 10" Carl Zeiss; $\frac{1}{2}$ sec. at F:22, representing full exposure and slightly restricted development, by giving normal time in a Pyro-Metol developer with 15% reduction of Pyro; by 4000 watts of Mazda light, on E. K. Portrait Pan.; E. K. Opal in M. Q.

Third Award—Advanced Class

■ "Balance," by Dr. Max Thorek, is splendidly posed and the two figures break up the picture space in a most interesting and decorative fashion. The circular motif of the composition is well maintained, and the models beautifully proportioned. From the standpoint of composition we would like to see the whole thing higher in the picture space, in order to provide a firmer base in support of the figures. At present the figures are practically standing on the edge of the print, which does not seem to be good practice, and also this tends to make the space at the top appear unjustified. Only a slight adjustment is required to put this right, enough to add about $\frac{3}{8}$ th of an inch to the base, on the 10"x12" print. The solid blackness of the upper part of the man's head is disturbing because the observer cannot tell what causes it. The lighting could not give this and if the man is wearing some sort of head-dress that comes down over the face the definition should be sufficiently detailed to make that evident. Further, it would help if there were better separation between the man's arm and the shadow which outlines it at the right.

Data: 8x10" Studio; 18" Verito; $\frac{1}{2}$ sec. at F:8, on E. K. Par Speed Portrait, in Glycin, by Halldorson Studio light; final print on E. K. Opal Q, in M. Q., from paper negative.

■ Mr. Jordan presented himself with some rather difficult technical problems in making this picture. It is no small complement to say that he has succeeded admirably in solving all of them. It is not easy to maintain the tone and texture of the white coat, to cause it to stand out from the white background, and at the same time to achieve such nice modeling and tone value in the face and hair. Aside from the charm of the model and the technical beauty of the print we cannot see that the picture is particularly strong in "pictorial" values. It impresses us as a straightforward, honest piece of portraiture that makes little pretence to being anything else. We would like to see the eyes placed a bit higher in the picture space. This could be attained by maintaining the present print proportions, projecting the image to a little smaller size, and keeping



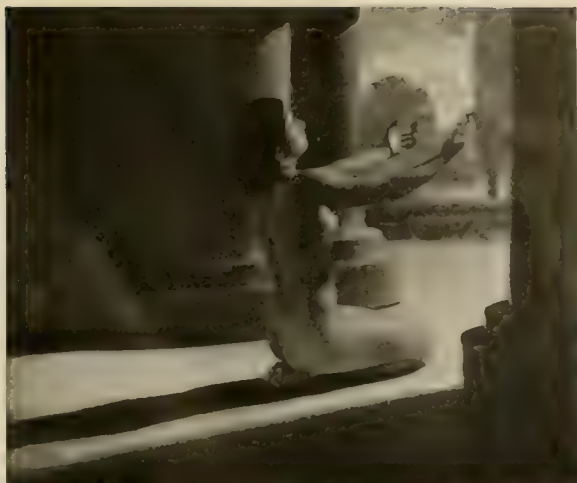
"Balance"

Dr. Max Thorek, F.R.P.S.

the shadow which outlines it at the right.

**Fourth Award
Advanced Class**

■ Mr. Kells' "Clytie" brings up a most interesting problem regarding the placing of the figure. We are quite sure that many photographers will instantly say that the figure should be farther to the left in the picture space, because it is looking to the right and also in order to get it out of the approximate center of the picture. Granted that such a contention is in conformity with the accepted "rules" of composition as ordinarily stated. But how rigidly should such "rules" be applied? Even if we are not sufficiently acquainted with mythology to know that Clytie was



**"Clytie"
H. F. Kells**

the nymph who loved the light, it seems perfectly evident in the picture that Mr. Kells has purposely placed his figure as far to the right as he deemed possible, in order to accent the idea that she is reaching for the light, longing for it, glorying in it. That is the theme of the picture. It is unfortunately true that a large number of photographers are addicted to what has occasionally been called "Camera Club Com-

(Continued on Page 43)

**Fifth Award
Advanced Class**



**"Still Life"
K. Wakasa**

■ Mr. Wakasa gives us a charming bit of oriental decoration in which there is good technical rendering of texture in the grapes, and vases. For a full discussion of the technical procedure involved in making this type of picture, see Mr. Frank Y. Sato's article entitled "How It Was Done," in the February, 1934, issue of this magazine. It is difficult to be sure about some things without actually seeing how an imagined alteration actually looks but we feel that this picture might be improved if it were condensed, so to speak, so that the background material would be smaller in relation to the foreground objects. Another way of putting it would be to say that the foreground objects should cut the background higher up and take up more of the picture space. We feel that this would tend to tie foreground and background together more organically than is now the case. The shadow lines in the background are not exactly vertical. This can easily be

corrected in another print, or by trimming, and is probably only the result of a slight slip in mounting.

Data: 5x7" View: 14" Wollensak; Two exposures on same E. K. Super Speed Portrait, in A. B. C. Pyro; Exposure for shadow background, 20 sec. at F:22, by diffused carbon spot, casting shadow on translucent screen; second exposure, 8 sec. at F:22 by 400 W Mazda spot, diffused and 1000 W Mazda flood diffused; carbon spot turned off during second exposure; final print on E. K. Opal T.



"Ship's Whistle"

H. C. Benedict

Amateur Medal Print

■ It is not often that those who are rash enough to enter into prophecy, escape the consequences as easily as we have in this case. Two months ago we said that Mr. Benedict would soon be in the Advanced Class. Here he is with his second first award, and here also is his notification of promotion. One good prophecy deserves another so we venture to state that you will soon be seeing Benedict pictures in the advanced division. In this picture we find a thoroughly sound composition, interesting subject matter, and beautiful photographic quality. Success in a picture of this kind depends upon the utmost care in selecting the point of view, and in choosing the time of day to make the exposure. Any slight variations from the best conditions will bring imperfections into the picture. It is in this respect, we believe, that the average amateur falls down in attempting to photograph such subject matter. From his pictures one gains the impression that he believes that the sole merit of shots like this lies in the fact that the camera was pointed upward, an entirely irrelevant consideration, of course. Numerous budding pictorialists are apparently trying to photograph without ever actually visualizing a picture. Rather, they are thinking of the physical position of somebody else's camera on an entirely different shot. That is not the way to success. Subtle adjustments of composition become increasingly important as the subject matter is simplified, or approaches the abstract, and such compositions must be made in the camera. A black border would be an advantage here, especially in tying in the loose ends at the base of the print.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Graflex; 15" Cooke Telephoto; 1/50th sec. at F:11, on E. K. Portrait Pan., in D-7; E. K. P. M. C., in Amidol.

**Second Award
Amateur Class**

■ Mr. Rex abundantly demonstrates with this picture the advantages of the small camera in catching interesting and realistic bits of the American scene. There are vast amounts of practically unexploited subject matter awaiting the photographer who intelligently adopts the "candid camera" approach. This simply means searching for significantly typical material; snapping it without posing so that there is complete absence of camera consciousness, and treating it in a straightforward, realistic fashion. We rather suspect that an increasing amount of such photography will find its way into exhibitions in the future. Two minor distractions may be worth mentioning. First, the highlights on the walk that runs past the window are as bright as any in the picture, so there is some tendency for the eye to move along this walk thus detracting from the principality of the figures. It would be a simple matter to tone down those highlights by dodging during printing, or by rubbing down the negative. It is unfortunate that the tree trunk blends into the shadowed part of the window, for at first glance this apparently causes the tree to do a disappearing act, and the eye pauses to seek an explanation. The best remedy seems to be trimming in from the right just enough to eliminate the tree. Print proportions still remain fairly satisfactory but if one wishes, a bit could be trimmed from the base without loss.

Data: $1\frac{1}{2} \times 2\frac{1}{4}$ " Baldax; Hugo Meyer Tripolan, F:28; $1/25$ th sec. at F:8, on Agfa S. S. Pan., in Buffered Borax; E. K. Vitava E2, in M. Q.



"Employment Wanted"
Ralph Rex



"Study in Pots"
Clair N. Fuller

in spite of this treatment we cannot say; probably the truth lies somewhere between the two extremes. At any rate, as was the case with Mr. Kells' "Clytie," we can see the dangers of a dogmatic approach to pictures and learn to avoid that mistake. The third violation, namely the use of a very rough surface paper, we cannot condone. Texture still plays an important part, and a rough surface destroys it.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Welta; $5\frac{1}{4}$ " Zeiss; $1/50$ th sec. at F:4.5, on E. K. film pack, in Metol-Acetone; K-1 filter, 11 A. M. in July; Barnett Tiger Tongue, in Amidol.

**Third Award
Amateur Class**

■ Mr. Fuller has violated three of the maxims that are ordinarily applied to close-up still life pictures of this kind, and yet, somehow or other it seems to us that he "gets away" with at least two of them. First, lack of all-over sharp focus; second, the utilization of background material as an integral part of the picture. If we were drawing up a set of rules as a guide for picture making of this kind we would be tempted to rule out both of these practises, and yet in this case they do not seem to kill the picture. Whether the print appeals because of, or in

**Fourth Award
Amateur Class**



"Rag Doll"
Augusta Zachary

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Auto Graflex; $7\frac{1}{2}$ " K. A. Anastigmat; $1/25$ th sec. at F:8 on E. K. Panatomic with K-2 filter; bright sunlight, 4 P. M.; A. B. C. Pyro with $\frac{3}{4}$ normal carbonate; E. K. Vitava Opal, in D-72.

■ It was Miss Zachery's good fortune that the young lady in this picture, apparently, was not a very willing model. In other circumstances that delightful pout, which adds so much charm, would have been missed. Admittedly the eyes are too dark, but this technical defect is not without some compensation, for the deeply shaded eyes stress the effect of sunshine and the out-of-doors, that is splendidly conveyed in this print. We believe it would help if the little girl's right shoulder did not fall off so much both in definition and in size, for this leaves something of a weak spot in the lower left of the print. Also, we would print both of the shoulder areas in a slightly deeper tone. No doubt the present rendition is true to the original but because the shoulders are lighter than the face tones there is some suggestion of falling off in the two lower corners. Also a black border would not be amiss, and would help to strengthen these corners.

**Fifth Award
Amateur Class**

■ This is a picture which we like very much. It has such exquisitely delicate gradations, and seems such a perfect expression of all the attractive qualities of a winter landscape that we fell in love with it from the start, and personally would like to have seen it placed higher in the rating. The horizontal divisions of the picture space seemed to bother the other judges. If the camera could have been moved further to the right when taking the picture, these horizontal lines would have assumed a diagonal direction and some improvement would probably result. As things stand no trimming is entirely satisfactory, but the reader may be interested in trying a trim that would remove slightly more than an inch from the 8×10 " print at the right and approximately the same amount from the bottom. This removes a slightly weak area in the upper right corner, and makes it possible to accent the diagonal direction of the lower line of ice by bringing it closer to the edge of the print. It has the disadvantage of bringing the shore line into the center of the picture. We cannot see that any marked improvement results and consequently are inclined to okay the picture as it stands.

Data: $2\frac{1}{4} \times 3\frac{1}{4}$ Kawee; 1 sec. at F:16, on E. K. Panatomic, in Metol; print on Agfa Brovira Velvet, extra hard.



"Approach of Winter"
L. H. Shaw

position." This means that the subtleties and the elastic nature of the subject are ignored; that a tight, rigid, mathematical formula is set up to which all pictures are expected to conform, upon pain of excommunication. Such a conception of composition arises from a superficial study of the subject and a failure to appreciate that any real understanding must be based upon the progressive development of a sensitivity to graphic values within the individual. Composition is a tool, a means to an end. Its "rules" mark danger points beyond which it is perilous to venture. The beginner is well advised to stay strictly within the defined limits. At the same time the developed artistic personality should properly be permitted a certain "poetic license" and it is important that the beginner appreciate this if he is to avoid a misunderstanding of the nature of composition. To our eye, Mr. Kells' composition appears justified. We cannot trim from the left because the feeling of darkness behind the figure is essential.

Data: Composite print from three negatives. **Figure:** Agfa view; 14" Plasiemat; 1/5th sec. at F:8, on E. K. Portrait Pan., in D-76; by one 500 W lamp. **Miniature Setting:** same equipment; 4 sec. at F:22; super speed Portrait, in D-72, by one 500 W lamp. **Landscape:** 3 1/4 x 4 1/4" Agfa Plate; 5 3/4" Agfa Anastigmat; 1/25th sec. at F:8, on E.K. S.S. Pan., in D-76, with K2 filter. Composite print on E.K. Opal A; composite negative on E. K. Commercial film, in D-73; final print on E. K. Portrait Proofing, in D-52; gold toned.

AMATEUR COMPETITORS

January, 1935

C. F. Adam, Oleum, Calif.
W. A. Akin, Pewaukee, Wis.
Lee Arnold, Flushing, L. I., N. Y.
*H. C. Benedict, Berkeley, Calif.
H. V. Birch, Schenectady, N. Y.
William Edwin Booth, Richmond, Va.
William Braverman, San Francisco, Calif.
A. E. Burns, San Francisco, Calif.
Roland Calder, Berkeley, Calif.
Jack Cantrell, Chicago, Ill.
Leon Cantrell, Nashville, Tenn.
Francis M. Carter, Saginaw, Mich.
Bland H. Casebolt, Fresno, Calif.
Margaret B. Clarke, San Francisco, Calif.
Raymond B. Collier, San Francisco, Calif.
Allen T. Cook, Jackson, Mich.
D. R. Creecy, Jr., Richmond, Va.
John Culp, Pacific Grove, Calif.
Honie K. DadyBurjor, Bombay, India.
Louise Etter, Colorado Springs, Colo.
James R. Evans, Ocean Beach, Calif.
Robert K. Ford, Buffalo, N. Y.
Mortimer Friedman, New York, N. Y.
J. T. Fujisada, San Francisco, Calif.
*Clair N. Fuller, Los Angeles, Calif.
Hubert W. Gouldthorpe, Erie, Pa.
Peter Granger, New York, N. Y.
Martin Greenaway, Glen Ellyn, Ill.
Haden Hankins, Richmond, Va.
A. L. Hill, Los Angeles, Calif.
J. W. Hubbard, Shafter, Calif.
Delbert E. Jack, Berkeley, Calif.
A. Geary Johnson, Washington, D. C.
William Karsten, New York, N. Y.

James A. Kelly, Ottawa, Canada.
Katsumi Kita, San Francisco, Calif.
Walter Lenhardt, Santa Ana, Calif.
Elmer List, Long Beach, Calif.
Hubert W. Meyer, Schenectady, N. Y.
W. E. Neithamer, Erie, Pa.
Karl K. Nelson, Newton, Kansas.
Don Kirby Oliver, San Francisco, Calif.
R. W. Olson, Schenectady, N. Y.
Frank X. Reilly, Pottsville, Pa.
*Ralph Rex, St. Louis, Mo.
W. C. Rodgers, Nashville, Ark.
J. H. Sammis, Peoria, Ill.
E. Ashford Sampson, San Francisco, Calif.
R. E. Schoenberger, Shaker Heights, Ohio.
Lawrence Schreiber, Cleveland, Ohio.
Wray Selden, Richmond, Va.
*L. H. Shaw, Schenectady, N. Y.
Henry C. Shaw, M. D., Bay Village, Ohio.
William Sloan, Dallas, Texas.
Louise Stinde, St. Louis, Mo.
Henry K. Tanaka, San Francisco, Calif.
Clayton H. Tanner, Urbana, Ill.
George O. Timanus, Philadelphia, Pa.
J. K. Trafton, San Francisco, Calif.
R. L. Treweske, Wichita, Kansas.
Stanley R. Truman, M. D., Oakland, Calif.
E. A. White, Manteca, Calif.
G. T. Yang, Peiping, China.
William O. Yates, Erie, Pa.
*Augusta Zachary, San Francisco, Calif.
E. Zurcher, Schenectady, N. Y.

*Denotes prize winners.

ADVANCED COMPETITORS

January, 1935

Jack Arnold, East London, South Africa.
Axel Bahnsen, Yellow Springs, Ohio.
Fred E. Crum, Spring Valley, N. Y.
Evelyn Curtis, Oakland, Calif.
M. K. Curtis, Oakland, Calif.
Harold L. Denis, New York, N. Y.
John Emerson, Chicago, Ill.
Edward Entin, Chicago, Ill.
Beauford B. Fisher, Pacific Grove, Calif.
N. A. Garman, Philadelphia, Pa.
Johan Helder, F.R.P.S., Ottawa, Canada.
J. K. Hodges, Victoria, Canada.
V. E. Johnson, Chicago, Ill.
C. M. Johnston, Ottawa, Canada.
*Stanley R. Jordan, San Francisco, Calif.

*H. F. Kells, Ottawa, Canada.
J. L. Laning, New York, N. Y.
H. H. Lott, Utica, N. Y.
H. Luscombe, Los Angeles, Calif.
John C. Moddejonge, Cleveland, Ohio.
C. L. O'Brien, Ottawa, Canada.
L. S. Olson, Brooklyn, N. Y.
*Dr. Max Thorek, F. R. P. S., Chicago, Ill.
Frank H. Toy, Bakersfield, Calif.
*K. Wakasa, San Francisco, Calif.
*Claude J. Williams, Los Angeles, Calif.

*Denotes prize winners.

Correspondence

Competition Comment

Dear Sir:

In the criticism of Mr. Kells' picture "Grecian Maiden," the question is asked "Is it legitimate to attempt a picture of this kind by photography? Should such subjects be left to the painter..."

Why? Isn't photography maintaining a place in the sun as an artistic medium? Witness the murals and increasing recognition by famous museums and art clubs. Why not equally say "Is it legitimate of a painter to do a portrait?"

Omitting the disappointing treatment of the background or other criticism of this nature, the picture is artistic and beautiful and the scene depicted is one which could have occurred in the daily life of ancient Greece or in the mythology of Aphrodite. It could have happened, therefore it rings true and its beauty is worthy of any artistic media in its reproduction.

Mr. Mortensen's practice in several instances of giving a definite name of a person to a characterization does not ring true. It could not be. For instance "Cesare Borgia." Would a portrait of a man in the street, made today and la-

beled Abraham Lincoln, ring true? No, it would not and it would not matter as to what the artistic medium was or whether the man was tall and gaunt and resembled Lincoln.

Creative art or Pictorialism confined to the painter? Who shall say so? But don't make the camera lie. Keep its work within the realms of the "it could have been."

Yours very truly,
WILLIAM R. BLAND.

Traveling Shows

Dear Mr. Young:

I wish I could convey to you a little of the spirit of enthusiasm with which the first **Camera Craft** Exhibit was received by Club members and visitors. We liked them immensely, and upon being judged by the Print Committee according to the rules on which traveling exhibits of the Photographic Society of America are judged, they were given the high rating of 87. Both Advance and Amateur groups were judged together as one exhibit. . . .

Yours very truly,
C. A. BERRY,
Oregon Camera Club.

Club Notes

The Camera Craft Traveling Salons

■ From this time forward the Camera Craft Traveling Salons will be conducted under the following plan. The clubs which have requested the shows have been divided into six geographical divisions. These groupings are given below and the exhibitions will travel through each division in about the order in which the clubs are listed in these groupings. The order in which the clubs appear within a division has been determined by the necessity of keeping carrying charges at a minimum. Whenever there is more than one club within a city the order will be reversed, for those clubs for each subsequent exhibition. At first we planned to reverse the order of the whole division for alternate exhibitions, but it was found that this would result in a club receiving two exhibitions fairly close together, with a very long wait for the third show. It seems best to have the exhibitions arrive at more or less regular intervals and to accomplish that we must maintain the same approximate order in all schedules. It will be evident that this method of scheduling gives an advantage to the clubs first in a group listing, only in the case of the first exhibition sent to that group. After that all clubs within the group wait exactly the same length of time between shows. It seemed desirable to arrange matters so that each club would

receive about two exhibitions a year. To that end the size of the shows, beginning with Group III have been reduced to forty prints. This will result in three new exhibitions becoming available each year, they will start on their rounds in March, July, and November, annually.

A schedule for an exhibition will consist of a routing through two divisions. It will then be returned to this office for repairs and subsequently routed through a second two divisions, etc. We estimate that it will take approximately a year for an exhibition to tour through two divisions, so with three shows a year available each club should receive about two exhibitions annually. Groups I and II were originally started in what is now divisions 3 and 1 respectively. These will complete their present schedules in October, 1935. Group I will then be routed through divisions 1 and 2, and Group II through divisions 3 and 4. Group III is now starting through divisions 5 and 6. Group IV will start in division 2 in April, 1935, Group V in division 4 in July, 1935, etc. We have not adhered strictly to the division groupings in scheduling Group III, but have attempted to clear up a few loose ends resulting from the fact that some clubs applied for the shows after the first schedule was made up, or were unable to take the exhibitions on the dates assigned to them. In the future, however, the division groupings will be maintained. Because of the questionnaires recently sent out we now know definitely just how long each club would like to keep the exhibitions. Consequently we are abandoning the policy of allotting the shows for the same length of time to each club and so far as possible will conform with the desires of the individual clubs in this regard. Below we list the clubs which have requested these shows in the geographical divisions to which they have been assigned, and also give the schedule for Group III. The schedule for Group IV, which will start in division 2, in April, 1935, will appear in our February issue.

Division 1

Pictorial Photographers of Victoria
The Seattle Photographic Society
Spokane Camera Club
Oregon Camera Club, Inc.
California Camera Club
Golden Gate Leica Club
San Jose Camera Club
Monterey Peninsula Camera Club
Taft Camera Club
Bakersfield Camera Club
Los Angeles Camera Club, Inc.
Whittier Camera Club
Tripod Pictorialists

Division 2

Fort Dearborn Camera Club
Bessemer Park Camera Club
St. Paul Camera Club
Camera Kraft Club
Omaha Camera Club
Lincoln Camera Club
The Lens Club
Camera Pictorialists of Kansas City
Oklahoma Camera Club
El Paso Camera Club
Austin Camera Club
Miniature Camera Club of La.

Division 3

Chicago Camera Club
The Midland Camera Club
Lansing Camera Club
Miniature Camera Club of Detroit

Detroit Edison Camera Club
Cleveland Photographic Society
Cleveland YMCA Camera Club
Portage Camera Club
Canton Photographic Society
Dayton Photographic Society
Photographic Society of Cincinnati
Camera Club of Cincinnati

Division 4

Erie Camera Club
Aluminum Camera Club
Pittsburgh Academy of Science & Art
Photographic Section.
Westinghouse Camera Club
Lancaster Camera Club
Reading Camera Club
Photographic Society of Philadelphia
Frankford Camera Club
Glenwood Camera Club
Delaware Camera Club
Baltimore Camera Club
Telephone Camera Club of Washington
Washington Pictorialists
Camera Associates of Huntington
Nashville Camera Club

Division 5

Jamestown Camera Club
Raytar Camera Club
Kodak Camera Club
Camera Club of Syracuse YMCA
Utica Camera Club
Schenectady Photographic Society

Telephone Camera Club of Manhattan
 Brooklyn Institute of Arts & Sciences
 Brooklyn Edison Camera Club
 Camera Club of the Brooklyn Union
 Gas Club
 Newark Camera Club, Inc.
 Orange Camera Club
 Passaic Camera Club

Division 6

Hartford County Camera Club
 Worcester Photo-Clan
 Camera Associates of the Boston City
 Club
 Boston YMCA Union Camera Club
 Greater Lynn Camera Club
 Concord Camera Club
 Portland Camera Club
 New Brunswick Camera Club
 Camera Club of Ottawa
 Hamilton Camera Club

Schedule Group III

Utica Camera Club, Utica, N.Y., Jan. 1-11.
 Raytar Camera Club, Rochester, N.Y.,
 Jan. 14-26.
 Kodak Camera Club, Rochester, N.Y.,
 Jan. 28-Feb. 7.
 Syracuse Camera Club, Syracuse, N.Y.,
 Feb. 10-20.
 Camera Club of Brooklyn Union Gas
 Co., Brooklyn, N.Y., Feb. 23-Mar. 4.
 Telephone Camera Club of Manhattan,
 New York, N.Y., Mar. 8-18.
 Brooklyn Edison Camera Club, Brooklyn,
 N.Y., Mar. 20-31
 Delaware Camera Club, Wilmington, Del.
 Apr. 4-11.
 Baltimore Camera Club, Baltimore, Md.,
 Apr. 15-27.
 Photographic Society of Philadelphia,
 Philadelphia, Pa., May 1-30.
 Cleveland YMCA Camera Club, Clevel-
 and, Ohio, June 5-15.
 Dayton Camera Club, Dayton, Ohio, June
 18-28.
 Jamestown Camera Club, Jamestown,
 N.Y., July 3-10.
 Schenectady Photographic Society, Sche-
 nectady, N.Y., July 15-30.
 Orange Camera Club, East Orange, N.J.,
 Aug. 2-20
 Newark Camera Club, Newark, N.J., Aug.
 24-Sept. 11.

Passaic Camera Club, Passaic, N.J., Sept.
 14-28.
 Brooklyn Institute of Arts and Sciences,
 Brooklyn, N.Y., Oct. 1-15.
 Boston YMCU Camera Club, Boston,
 Mass., Oct. 18-28.
 Worcester Photo Clan, Worcester, Mass.,
 Nov. 1-10.
 Hartford County Camera Club, Hartford,
 Conn., Nov. 13-15.
 Camera Associates of the Boston City
 Club, Boston, Mass., Nov. 18-30.
 Greater Lynn Camera Club, Lynn, Mass.,
 Dec. 3-10.
 Concord Camera Club, West Concord,
 N.H., Dec. 13-23.
 Portland Camera Club, Portland, Maine,
 Dec. 28-Jan. 11.
 New Brunswick Camera Club, New
 Brunswick, N.J., Jan. 20-30.
 Camera Club of Ottawa, Ottawa, Ont.,
 Canada, Feb. 4-24.
 Hamilton Camera Club, Hamilton, Ont.,
 Canada, Feb. 29-March 17.

P. Douglas Anderson to Give Course in Miniature Camera Photography

Mr. Anderson begins a new group of
 courses under the University of California
 Extension Division in San Francisco and
 Oakland in January. The excellent pho-
 tography that graduates of Mr. Anderson's
 courses turn out is all the recommendation
 he needs as an instructor. The courses for
 miniature workers are given now for the
 first time. Courses are as follows:

In San Francisco (540 Powell St.)—
 Photography Principles and Practice
 803A, Monday, Jan. 7, 7-8:30 P. M.
 Photography: Miniature Cameras 805,
 Thursday, Jan. 10, 1935.
 In Oakland (1730 Franklin St.)—
 Photography: Miniature Cameras 805,
 Wednesday, Jan. 9, 1935.
 Photography: Darkroom Technique 808,
 Friday, Jan. 11, 1935.

Photographic Society of San Francisco

November 15 was a gala day for the
 Photographic Society of San Francisco.
 At 6:45 P. M. more than eighty members,
 their wives and friends assembled at the
 Hotel Richelieu for the annual dinner,
 which marks the high spot in the year's

activities. On the walls were hung 125 prints submitted in the regular quarterly competition and San Francisco "object show" and was on the average the finest member's exhibit yet produced.

President William E. Wing commented upon the accomplishments and aims of the society and accepted on behalf of the club the silver cup won in the **Camera Craft** competition for large clubs. The society also tied for second place in the advanced section. Individual honors went to James McBride for the best San Francisco picture and to H. C. Benedict, winner of the quarterly competition. Mrs. C. B. Fletcher was awarded the cup for the best print of the year. This is the second consecutive year Mrs. Fletcher has won this honor.

One of the interesting events of the evening was the announcement of the person selected as having made the greatest photographic progress during the past year, which distinction went to H. C. Benedict. A year ago John Paul Edwards, honorary member of the society, suggested this plan as a further stimulus to serious workers and the idea has met with such enthusiastic approval that he has announced a similar award will be made next year. A group of three fine prints was the prize won by Mr. Benedict.

Mr. Ralph Young, commercial photographer, was the speaker of the evening. He commented upon a group of selected prints with a charm of manner and a discernment of artistic values that endeared him to his audience. George Allen Young, Editor of *Camera Craft*, added to his already long list of accomplishments

the role of toastmaster. The dinner—Turkey with all the fixin's, of course!—Many thanks to the committee on arrangements for an altogether enjoyable evening.

Photographic Society of Cincinnati

Robert A. Officer, F. R. P. S., of Denver, recently spent a few days in Cincinnati with the Society's president, Nikolas Boris, F. R. P. S. Several of the members were privileged to meet Mr. Officer at dinner, after which he showed us a number of his outstanding salon prints. Mr. Officer personally knows quite a few of the country's well known pictorialists and his descriptions of his contacts with them were most entertaining.

John R. Gwynn Honored

John R. Gwynn, more than any other individual, was responsible for the organization and subsequent successful activity of the Golden Gate Leica Club, of San Francisco. He has held the presidency of the club since its inception. At the last meeting of the club new officers were elected for the coming year. As an expression of appreciation and esteem the club presented Mr. Gwynn with a handsome leather bound album, in which there was a page for each member of the club, with that member's name thereon. Each member will fill that page with one of his best prints. This impresses us as a very fitting photographic remembrance and one which Mr. Gwynn will no doubt cherish for many a day. The new president of the club is Mr. Arthur Purdon, whose writings on fine grain development in *The Camera*, have proved a notable contribution to that magazine.

Notes and Comments

Personal Instruction by William Mortensen

Those who desire nothing but the best and are interested in obtaining instruction in photography, will do well to investigate the opportunity for personal instruction under William Mortensen. Mr. Mortensen accepts only a limited number

of pupils for study at his studio in Laguna Beach. We are quite sure that the reading of even one of Mr. Mortensen's excellent articles which have appeared in this magazine will do far more to convince you of the calibre of his instruction than anything we might write. We refer you to the articles and advise writ-

ing to Mr. William Mortensen, Laguna Beach, Calif., for full information.

Inventory Sale

Burke & James, Inc., 223 W. Madison St., Chicago, Ill., are currently announcing their 37th annual inventory sale, and they have prepared a 48-page Inventory Bulletin which lists hundreds of bargains that actually are bargains. Write for your copy today—lose no time, for buys such as these are not often available.

Free Information on Fine Grain Development

Desiring to do their part to clear up the confusion and controversy that exists regarding fine grain development, the Central Camera Co., distributors of the excellent "Micrograin 85" developer, have prepared an article describing thoroughly the principles and various problems that are encountered in such work. Copies of this article may be had free of charge by writing to the Central Camera Co., 230 So. Wabash Ave., Dept. CC-1A, Chicago, Ill.

San Francisco Camera Exchange

We have often been impressed with the distinct usefulness of the camera exchange type of store. Not only does it offer the opportunity to buy second hand equipment at a real saving, but also it provides the means of disposing of equipment which a photographer no longer needs, and in that way it aids the progress of photography by making it possible for a photographer of modest means to keep his equipment up to date, and in step with his expanding requirements. The San Francisco Camera Exchange, 88 Third St., San Francisco, Calif., is that kind of store, and one can always be sure that anything purchased from Herb Luhn, the proprietor, will be exactly as represented.

Diacine

Diacine is the trade name of the new fine grain developer now being distributed by the Craig Movie Supply Co., 1053 So. Olive St., Los Angeles, Calif. Certain precautions should be observed in using this developer, and we quote below instructions received from the gentleman responsible for the formula. It should be particularly noted that the temperature should

never be below 68° F. and that agitation is very important with this developer.

"Diacine is an entirely new type of physical developer that removes silver not acted upon by light and redeposits it upon the latent image. The redeposited silver is dyed a slightly reddish-brown hue with para-phenylene-diamine and the resulting negatives are soft, with full detail in the highlights and shadows, and have a printing quality similar to that of a perfect pyro negative. The contrast is exactly suited to the miniature camera workers' needs, permitting extreme enlargements, and the grain is ultra fine.

"Diacine acts best at from 68° to 74° F.; temperatures below 68° prevent the solution from removing sufficient silver from the emulsion and a lack of density results. The solution should be agitated. Silver is redeposited in proportion to the amount of agitation."

Oakland Camera Exchange

The many friends of H. W. Scott, formerly with the Eastman Kodak Stores, Inc., of San Francisco, will be pleased to learn that he has just opened the Oakland Camera Exchange in the premises formerly occupied by Adams & Co. The address is 376 Fourteenth St., Oakland, Calif. Mr. Scott, who has recently returned from a trip to Europe, is anxious to renew his photographic acquaintances, and you will find his store well equipped and ready to serve your needs.

New Bausch & Lomb Equipment

An addition to the equipment of the amateur microscopist has recently appeared in the form of an inexpensive photomicrographic outfit for photographing specimens in the field of the microscope. The price of \$12 is a long jump from the \$100 tag which has dismayed many amateurs who have looked at the professional outfits. This does not imply that professional work cannot be done with this compact little outfit. It is in no sense a toy and the results obtainable with it are limited only to the quality of the microscope and the skill of the operator.

The outfit can be used with any good amateur or professional microscope and the procedure is very simple. The micro-

scope is placed on the base of the stand and held securely by a forked metal clamp. The camera is adjustable up or down on a vertical rod and can be swung to the left or right. It uses standard 127 roll or cut film two and one-fourth inches by three inches. Cut film of flat celluloid is generally used by professionals because results may be checked more easily after each exposure. For either time exposures or snapshots, this outfit gives excellent results with the proper illumination. A good source of the latter is a 100-watt frosted bulb in an ordinary gooseneck desk lamp.

Attached to the side of the camera is a focusing tube with which the object may be seen on a focusing disc. When the exact focus is secured the camera is swung over the microscope ready for the exposure.

A light-tight connector fits over the eyepiece of the microscope and into the shutter opening of the camera to keep stray light from reaching the film. Exposure is just as important in photomicrography as in regular photography and while the only true guide is experience, a table has been compiled on exposure time which is very helpful to the amateur. This is included, with the instrument, in a manual for the beginner in photomicrography.

Eastman Announces Two New Kodascopes Eight

Brilliance predominates in the new Kodascopes Eight, announced by Eastman Kodak Company.

The new model, Model 40, which replaces Model 25, contains a 200-watt lamp instead of the 100-watt lamps of its predecessor, yet is priced the same.

The new Model 80, which supersedes Model 60, besides the far greater brilliance supplied by its 300-watt lamp, embodies a number of interesting innovations among which are sturdy die-cast lamphouse of fluted design that makes for cooler projection and an attractive pebbled finish.

Speed-O-Copy

Contax and Leica owners may now enjoy the advantage of full size ground-glass focussing, by means of this simple practical attachment, invented and manu-

factured by D. Paul Shull, 240 So. Union Ave., Los Angeles, Calif. In the advertising section of this issue you will find an illustration of the device. It consists, primarily, of three sections hinged together. The camera lens is placed in the center section, the camera, with the lens removed, is attached to the lower section and the upper section carries the ground-glass. When the upper section is folded down over the center section one has full detailed ground-glass focussing with an image exactly negative size, using the same lens that will take the picture. When focussing is complete, the upper section is swung up and out of the way, the lower section carrying the camera is swung into position, and the picture taken. It's just as simple as that. The name may lead some to believe that this is useful only for copying. Such is not the case. It is equally practical for any kind of photography with the possible exception of action or candid camera work, where there is no time for careful focussing. See it at your dealers and write to Mr. Shull for full information.

Solite

In the current advertising for Solite reference is made to "commercial" and "portrait" lightings. For the benefit of those Camera Craft readers who may not understand the terms as used in the advertisement we may explain that in commercial photography the customer desires sharp lines, clean cut shadows, brilliant contrasts. Thus, among professional workers, a "commercial" lighting is recognized as one which is produced by focussed, direct rays.

A "portrait" lighting is generally distinguished for its softness. Thus, according to best practice, it is desirable to diffuse the light source at the time of making the exposure. Customers of professionals seldom care for photographs in which lines are wire sharp—in fact, one leading professional has said that every line in a portrait should be a "rounded" line.

The Solite reflector, which is fitted with a unique device for increasing the effective value of any light source used with it, has

the ability, it is said, of producing both qualities of light above mentioned by the simple expedient of changing bulbs. See this equipment at your dealers and write to Solite, 1373 Sixth Ave., New York, N. Y., for full information.

Johnston's Snow White Ink

Snow White Ink has been a photographer's standby for many a year and has proved its worth and permanency in many directions, especially for lettering in photographic albums. Mr. Johnston now adds to his line a white pencil that will find many handy uses. Judiciously used it can be very helpful in print retouching, or it can be used in the album along with its sister product. A white penholder and a white ruler of handy size are also supplied, and offer complete equipment for white ink work, in a uniform color scheme. Write to J. W. Johnston, P. O. Box 575 C. C., Rochester, N. Y.

Ley Cable Release Synchronizing Switch

The Ley Photolite Co., 1627 Carmen Ave., Chicago, Ill., are now offering their new, improved Cable Release Synchronizing Switch, at greatly reduced prices. This appliance is easily attached to the camera and makes it possible to be sure that the shutter of your camera will be open at just the right time, when using photoflash bulbs. Wonderful unposed pictures of children or adults may be obtained with such equipment. The best thing about such pictures is that they will betray no trace of camera consciousness, for the photographer is able to snap his pictures without posing or fuss. Write to the above ad-

dress for full information and see the appliance at your dealers.

New Agfa Ansco Products

Agfa Ansco announces the addition of three new surfaces to the popular Indiatone line, each of which may be obtained in both white and ivory. These are designated as Royal, Kashmir and Linen. Royal is similar to the surface of the same name in the Brovira line that has been so well received. Kashmir is a new smooth surface with a slight irregularity to its texture, giving an effect of character and distinction. The linen surface describes itself. The Indiatone papers are of the chloro-bromide type, producing beautiful warm-toned prints, and it may be used for either contact or projection printing, as the speed is not too great for the first if the lights are screened down a bit, nor too slow for even large projections. Indiatone papers are available in only one degree of contrast. Convira is the name of the new Agfa Ansco contact paper that promises to repeat the remarkable success of its sister product, the projection paper Brovira. It is made in five degrees of contrast and in a wide selection of surfaces. Within this line there are papers especially designed for photo finishing, commercial contact printing, and portrait contact printing. The new Agfa Ansco Descriptive Price List No. 53S describes the full line of professional films, papers, and chemicals, and it will prove very handy for reference. Write to Agfa Ansco Corp., Binghamton, N. Y., for your copy.

Our Book Shelves

American Annual of Photography, Edited by Frank R. Fraprie, F.R.P.S. Published by the American Photographic Publishing Company of Boston, 298 pages, \$2.25 in cloth, \$1.50 in paper covers.

Once again the American Annual makes its appearance with its wealth of informative articles and its interesting collec-

tion of pictures. In all there are twenty-nine articles plus Mr. Fraprie's discussion of the pictures, the list of Who's Who in Pictorial Photography, the list of societies, and the section devoted to formulae. There is no book which delivers so much helpful information for the money.

We can see no marked change as com-

pared with previous editions. The book contains, as it has for a number of years, sound helpful articles for the amateur, plus an interesting collection of good pictures, selected from a rather conservative point of view. At the risk of being tiresome we repeat our comment of last year, namely: that in a work which should offer a cross-section of American photographic endeavor, it is regrettable that none of the acknowledged leaders of the so called "Pure" photography movement are represented.

Photograms of the Year, edited by F. J. Mortimer, Hon. F.R.P.S. Published by Iliffe & Sons, of London. Prices, \$2.50 paper, \$3.50 cloth.

This volume contains seventy-eight large size reproductions excellently printed, a review of the year's progress by the editor, a commentary on the pictures by C. J. Symes, F.R.P.S., and the reports on photographic activity in various parts of the world. We are inclined to feel that Mr. Mortimer has done a fine job in providing his readers with a remarkably accurate and interesting cross-section of pictorial photography as now practiced. He displays a sensitive understanding of current trends, and has obtained some fine examples of all types of work. It is interesting to note that both Mr. Mortimer and Mr. Symes state that they have noticed a marked swing toward straightforward methods of working during the past year. "Strength" by Harold Burdenkin, impresses us as being closer to the spirit in which the "pure" photographers of this country are working than anything we have seen in other annuals, with the exception of "Modern Photography". Almost all of the pictures in fact display a strength and clarity of statement, and an honest, photographic treatment that bears out the statement of the editor referred to above. For us at least this is the finest edition of "Photograms" that we have seen for some time.

Photography, by Edward Weston. Number 11c of the "Enjoy Your Museum" series. Published by the Esto Publishing Co., of Pasadena, paper covers \$.10.

This interesting little volume is intend-

ed to give the general public an appreciation of the background and the ultimate aims and objects of photography, so that they will be better able to appreciate good photography when they see it. The recommendations, of course, conform to the tenets of "Pure Photography", of which Mr. Weston is the acknowledged leader. It is just for this reason that the pamphlet will prove so interesting to photographers, for here we find a clear simple statement of Mr. Weston's photographic convictions. The first chapter reviews the development of photography as an art; the second defines what Mr. Weston calls "straight" rather than "pure" photography; the third is entitled "How I Work"; and the fourth is concerned with photography as a means of expression.

Paper Negatives, by C. W. Gibbs. Published by Clargray Publications, of New York, N.Y. 32 pages, paper covers, price \$.50.

In this little book Mr. Gibbs gives a thorough and easily understood description of the paper negative process, that should enable any reader to produce his own paper negatives with a minimum of difficulty. The text is reprinted from a recent issue of *American Photography*, but a number of illustrations have been added, along with a description of how they were made that makes a worthwhile addition to the material.

The Rolleiflex Book, by Dr. Walter Heering, translated from the German by John L. Baring. Distributed by Burleigh Brooks, New York, N.Y., and American Photographic Publishing Co., of Boston, 115 pages, cloth covers, \$2.00.

One of the very real advantages of owning one of the popular miniature cameras of the day lies in the fact that they are sold in such quantities that it becomes possible to publish books intended only for the users of that camera. That such books can be very helpful, especially to the beginner is obvious, for it is not possible to supply detailed information on the operation of a specific camera in any other way. Rolleiflex users now have their book, and a good one too.

Classified Advertisements

OUTFITS FOR SALE

◆6½x8½ view camera, case, tripod, \$18.00; Ansco 8x10 printer; 4x5 Premo view with 2B Zeiss Tessar lens, Volute shutter; 8½ Goerz Dagor 6.8 Studio camera and lens. National Studio, Bucyrus, Ohio.

◆Zeiss Maximar B, with case, distar, proxar, and filter. Cost \$80.00. Sell for \$45.00. Condition like new. F. H. Catlin, New Richmond, Wis.

◆Professional Movie Camera 35 mm. The property of the late Dr. L. S. Sugden. Tripod ;two lenses; 7 film holders, capacity 200 feet each; and carrying cases. \$300.00. E. J. Hamacher, Whitehorse, Y. T., Canada.

◆Ica Stereo \$200.00 camera outfit. Zeiss 4.5 lenses. 6x13. Automatic plate magazine and extras. Fine condition, \$65.00. Arisman, Box 135, Chicago, Ill.

◆Leica Model F, Summar F.2 Elmar Wide Angle Lens, Direct Vision and Wintu Angle Finders. Eveready and combination cases, Correx Tank and other accessories, like new. Sell for one-third off, no trades. Miss Grace Greenway, 4324 Maryland Ave., St. Louis, Mo.

◆Rolleiflex 1½" by 1½" Zeiss Tessar f:2.8, carrying case, combination back for cut film, 3 cut film holders, sunshade, and leather case for sunshade. Paid \$136.10 will sell for \$87.50 cash. A. B. Carlson, 44th & B Sts., Lincoln, Nebr.

◆10x15 cm. (4x6) imported Tropical Model (Mahogany Brass) Doeppl f:4.5-6½ in. double extension, focusing back, f.p., adapter, case, excellent, \$60.00. 4A Kodak (4¼x6½) roll film Goerz Dagor f:6.8-7 in., case, tripod, \$35.00. Want Plasmal, Tele-Peconar Linhof 9x12 or 5x7. Otis Gardner, 408 Y. M. C. A., Denver, Colo.

OUTFITS WANTED

◆Graf Variable, or Heliar f:4.5 in compound shutter, or Dallmeyer Series B. All 7"-8½" focus. Quote cheapest cash price. Y. O., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Modern 4x5 View Camera and accessories. Give description of machine and lens equipment. Price must be low. S.P., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆5x7 Graflex Plate or Cut Film Magazine, Used. Write: Calaveras Drug Store, Angels Camp, Calif.

◆Leica camera, late model, must be in A1 condition. Would buy accessories also. Elmer J. Priest, 61 Washington St., Quincy, Mass.

Bargains in used Photographic Equipment: Filmo Cameras \$55.00; Leica Cameras \$45.00; 14" F:4.5 Lens \$49.50; 35 MM Movie Projector \$40.00; 16 MM Projectors \$20.00 and up. Marion Soko Reflex, Carl Zeiss Lens and case, like new \$95.00; Ica Orix F:4.5 Zeiss lens \$49.50.

Hollywood Camera Exchange, Ltd.
1600 North Cahuenga Blvd., Hollywood, Calif.

MINIATURE CAMERISTS

Trade in your old equipment on a new Leica or Rolleiflex. Liberal allowance. Bargains in used Leica equipment. Model D \$79.50. Prior model Viewfinder \$5.00. New Filoy Enlarger \$32.50.

MINIATURE CAMERA SHOP

1600 Post St., San Francisco Ph. WA 4484

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◆Skylight studio and darkroom suitable for portrait or commercial photographer. Located, Geary near Stockton, center of shopping district, San Francisco. Reasonable rent. Phone DOuglas 9515, or write D. J., c/o Camera Craft, 703 Market St., San Francisco, Calif.

POSITIONS WANTED

◆Capable photographer, age 31, desires accompany expedition, prefer tropics. F. L. Brown, 631 N. Skidmore St., Portland, Ore.

◆Young man wishes to learn commercial or portrait photography in Northwest. Accept small wages. 2 years college, wide general experience. M. C. Underwood, 137 S. E. 72nd Ave., Portland, Ore.

◆Young man, six years Army Aerial Photographic experience very much interested in commercial photography (advertising or illustrative) desires permanent position in this line of work. Will go anywhere. Excellent references. T. S., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Kodak finisher, two years' experience, desires connection with a commercial studio. Single and free to go anywhere. A. D. Wisner, Box 22, Garden Grove, Calif.

◆Do you need help in your studio? I am a young man, experienced, educated, systematically trained in photography, and willing to accept minimum wage to begin. Go anywhere. Clark C. Stanley, 3120 Linden St., Oakland, Calif.

◆Colorist, young woman, desires position or piece work. Very anxious to learn retouching and other branches of photography. Prefer San Francisco and vicinity. M. K., c/o Camera Craft, 703 Market St., San Francisco, Calif.

FOR SALE OR EXCHANGE

◆5x7 Press Graflex, Kodak 8½ inch lens, hand made sole leather case (case cost me \$30.) Plate magazine. This outfit is all in excellent condition. Will trade for 4x5 Speed Graphic or other light weight camera if you have good lens equipment for same. Barrett Studio, Jackson, Wyo.

◆Voightlander Stereoscopic Camera 6x13 cm., complete. F:4.5 lenses, carrying case, plate changer, film pack adapter, Zeiss stereoscope and transposing printing frame. Trade even for Contax or equal with f:2 lens. Lt. J. S. Stowell, Chanute Field, Ill.

"PHOTOGRAPHY"

A 12-page booklet by Edward Weston (in the "Enjoy Your Museum" series.) What Weston thinks of photography; what he tries to do; how he works. 12c postpaid. Esto Publishing Co., P. O. Box 46-F, Pasadena, California.

Target Pistols, Rifles, Shotguns, Revolvers, Microscopes, Binoculars, Telescopes, accepted in trade at liberal allowances on any photographic equipment, motion picture or "still." Authorized representatives of Leitz, Zeiss, Eastman, Victor, Bell & Howell, and every leading manufacturer. NATIONAL CAMERA EXCHANGE, Established in 1914, 5 South Fifth Street, Minneapolis, Minnesota.

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CAMERA



"The Javelin Throwers"

William M. Rittase

18th Los Angeles International Salon

CRAFT

January 1935

AMERICAN SNAPSHOTS
LOS ANGELES SALON
KODAK-RED DEVELOPMENT
FEATURE OF 16mm. TALKIES

PRICE 25c

William Mortensen
James N. Doolittle
B. W. Leroy
Cinema Section

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By WILLIAM MORTENSEN

Second Edition

COMPLETELY REVISED AND EXPANDED TO 3 TIMES ITS
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ADDITIONAL ILLUSTRATIONS

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This revision and expansion has been carried out in response to repeated questions for fuller information on the matters previously considered and for explanations of the application of Projection Control to types of pictures not previously dealt with.
•

CHAPTER HEADS

- I Scope and Uses of Projection Control
- II Equipment and Materials
- III Negative Quality
- IV Simple Projection Printing
- V 4 Methods of Projection Control
- VI Framing
- VII Local Printing
- VIII Distortion
- IX Montage and Combination Printing
- X Pax Vobiscum
- Appendix: Advantages and uses of the Texture Matrix

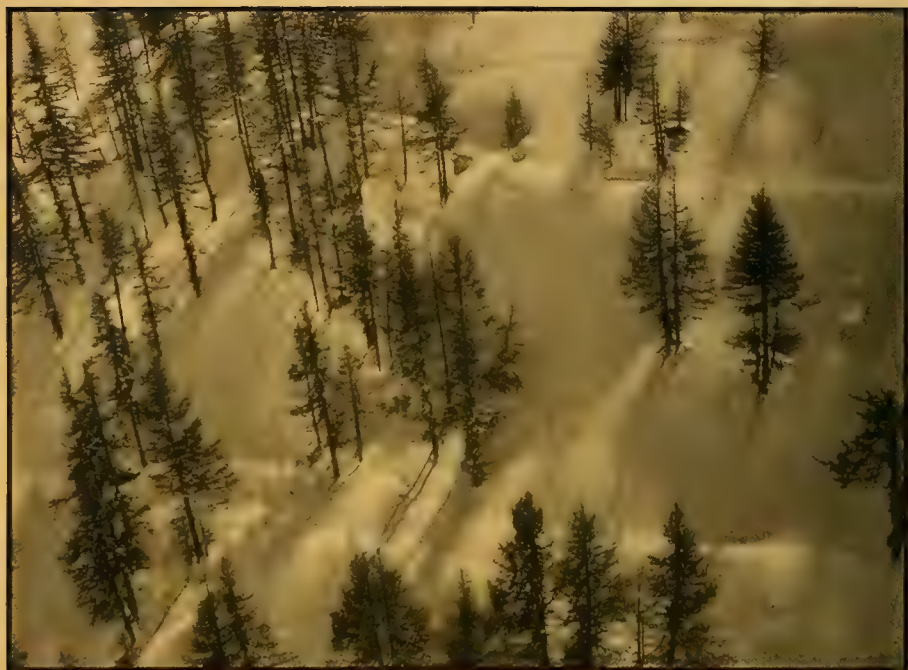
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"Ultime Luci"

Dr. Enrico Giovanelli

18th Los Angeles International Salon

NRA Notions Regarding Art

James N. Doolittle

In which the Observer makes a few cracks
anent the annual "ploughing under" at the
Eighteenth International in Los Angeles

IF I had reason to feel that I possessed a literary style and that as a literateur, I had a "public", I'd be measurably certain that the latter would have guessed by now that my allusion to Art would begin and end right here and that the gag line employed at the top of this article would have nothing whatever to do with the benevolent offices of the N.R.A.

In fact, if I had a following, it would be composed of individuals who would realize that art has as little to do with photography of the better sort as has the National Recovery Administration or each with each other. So I go on from here entirely on my own to record certain more or less random impressions from a not too hurried preview of the entire contribution to the Eighteenth International Salon of Pictorial Photography held 'way down here in the lower left-hand corner of the United States.

In dealing thus casually with the hallowed name of ART, I do not mean to imply that the makers of the several hundred subjects offered for our critical inspection are not highly accomplished in a medium which provides a vehicle for self-expression; merely do I imply that the term is a long-hair name for something of which we know but comparatively little and care a whole lot less. You see photography is the kind of thing which you sort of exude. You don't learn it; you come by it. Or break out with it. The more it takes on the color of erudition the more it savors of academic precepts and gets all formal, sanctimonious and ostentatious. You can't get arty and get photographs—not the same

day, at least, for photographs don't wait; they're here today and gone the next moment. Of course a background of sound academic training doesn't hurt for it puts one in the possession of proofs of rectitude—like looking in the back of the book for the answers, so to speak!

But just you try to make photographs according to the book and you'll either produce the kind of stuff which your best friends won't tell you about or that any fairly intelligent jury will send back to the shipping room for return to addressee.

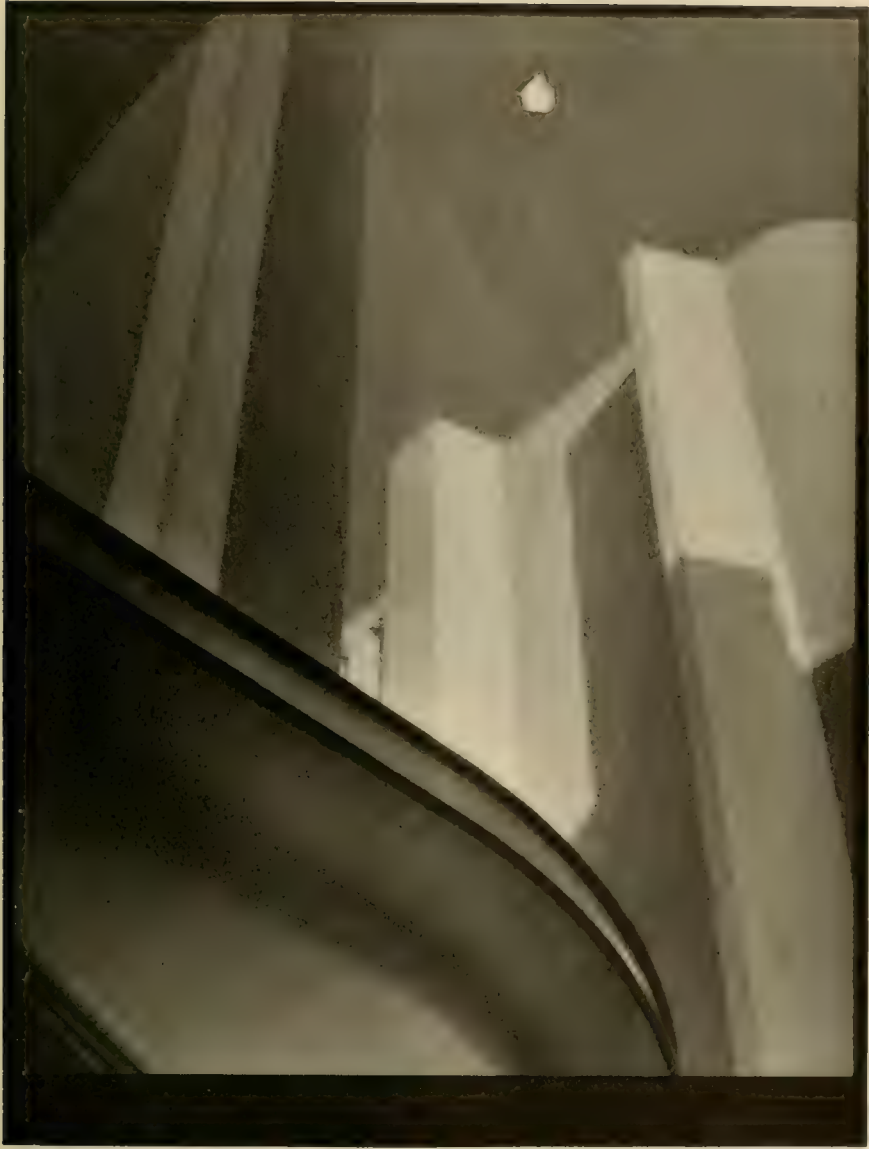
But I mustn't get away to a misunderstanding, I go for careful, thoughtful work in any medium but I don't want to discover tired, labored results. There's a lot of fun in the kind of thing which has gained merited recognition under the moniker of "candid" photography. I've seen quite remarkable things done under conditions of lighting that makes me feel that we are indeed living in an age of wonders. Many of these examples have a place in exhibition work where art is taken for what it's worth. But good mechanical technique never spoiled any picture so I'm inclined to interpret Candid Camera photography merely as "brutal frankness".

At the other extreme I see stuff over which the makers have toiled so exhaustingly to make "paintings with light" that I wonder why they bothered with the camera at all. You know a camera can be an awful nuisance if you're thinking in terms of brushes and canvas.

But, to contradict myself in a way, I get an awful bang from the things Mortensen makes. He proves that the camera has something to do with his final results for he attaches a diminutive contact print of the original negative to the face of the mount. I scarcely need to tell you what he has accomplished with that which many of us would consider meager material. There's genius somewhere along the line. H. F. Kells reminds me of somewhat identical efforts except that his work might be described as a bit "literal". His montages attest considerable manual dexterity after he got all through with the camera part of his operations.

I don't see much "moderne" stuff this year—at least you won't, after Dapprich gets through judging the show—for the type of things we raved over three or four years back has either worn out its welcome or folks are getting to learn where not to send it. There are a few shots of just "things" which are such nice examples of good developing and printing that Fred is apt to let a few slide by such as one or two by William E. Wing. If there is a sale price on Mr. Wing's entry form it should be moderate for it isn't conceivable that such pictures have more than momentary value. Perhaps he had no more mercenary motives, though than Ch. Hurault in the rather intimate figure group which he titles "Huitres", (oysters to you). And I've always been so fond of these bivalves—seems a pity to shoot portraits of them!

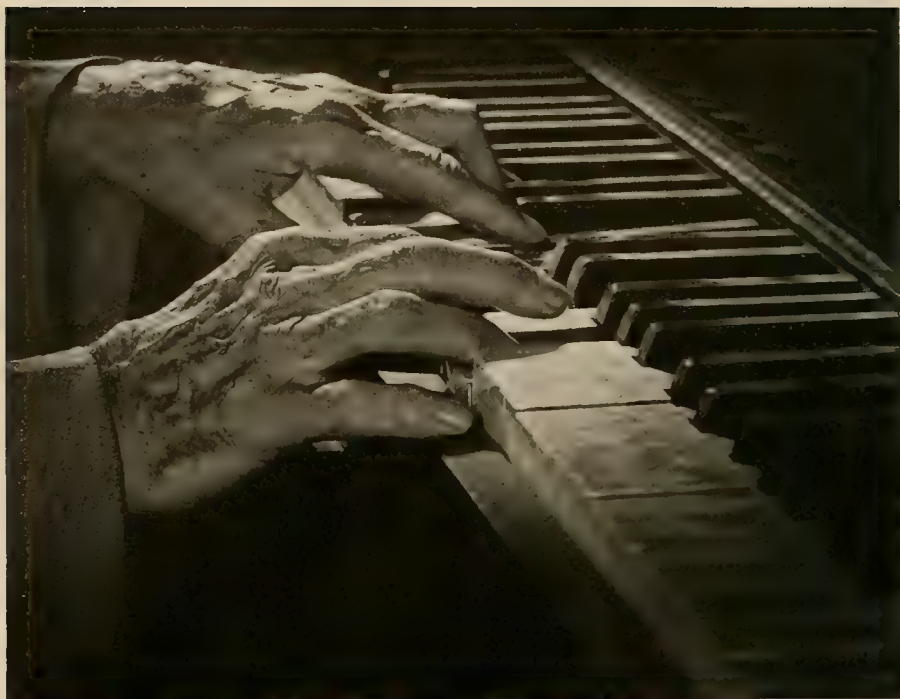
I'm not especially strong for bromoils—never been able to make the ink stick—but I don't seem to mind the fact that Murry Barford of England sends us four beautiful pastorals in this medium. They'd have been good even though the ink hadn't stuck. There is something in a pigment process. I must be reminded to try it again sometime. Fred Judge is



"Architectural Abstraction #2"

Harold Haliday Costain

18th Los Angeles International Salon



"The Last Chord"

Hillary G. Bailey, F.R.P.S.

18th Los Angeles International Salon

still making those delightful little transfers with a delicacy that's a joy indeed. And I have an especial admiration for J. Harold Leighton's little gum prints. They're bolder, more sturdy than Judge's things but there's something about them. Then there's the work of J. W. Whitehead. Beautiful skies, remarkable multiple printing, old-world rural atmosphere and all the elements which still stir me as does the print which the author gave me several years ago, of very much the same type of subject.

While I'm sojourning in England, I come to Alex Keighley's huge carbons. His things were liked 'way back when I was first trying to get into salons and they will be admired after I've had my final "reject". Just so with James McKissack. We get into a way of knowing what to expect from this artist from year to year and are never disappointed.

Miss Dorothy Wilding is back this year with a group of her incomparable portraits. She brings young Doug Fairbanks right home and a couple of others whose likenesses are a familiar sight in local show-cases.

There are not many formal portraits in this year's show but the human physiognomy has not been passed up entirely as a field for pictorial "mapping". You ought to see the mugs which Will Connell has included in a sort of satirical attack upon our own motion picture industry—the fifth largest in the country, mind you. Of gargantuan pro-



"Contact"

Robert A. Barrows

18th Los Angeles International Salon

portions, they fairly snap at one. The hissing villain leers from a 16x20 frame while the lip action of the Bronx razz in another is certainly no obscure gesture.

Pierre Dubreuil does some interesting peeking in what one ought to call the modern manner. His are merely photographic escapades but one can do funny things with a camera. His one shot of a "out-size" eye on the other side of a huge key hole would make one skeptical about privacy in a country where one's latch-key is not a thing to be carried lightly!

J. Ortiz Echague's sole exhibit is, I believe, this artist's top achievement. A great big fresson in his well known technique. I don't care if I never see bigger and better photographs. As an associate member of our society he was entitled to three on a free ride but two additional subjects could not possibly have represented him more adequately.

This mythical "public" of mine will expect me to make some kind of a pass about nudes. Well, if it could only see what I see I wouldn't have to go on and repeat my obsession that photographers simply cannot photograph the undraped human frame and expect us to keep our minds on our knitting. If there be exceptions, their pictures are saved for other eyes. Joseph V. Dorn comes as close to an esthetic gesture

with his subject entitled "Grief" as any I came across in this year's offering, and the rest might carry the same title as far as I am concerned. Nor do the calisthenics at which the subjects have been pictured seem to have the least beneficial effect upon their several and ample figures. Ho, hum; I guess it's me.

There used to be a class of subject known as "still life" but the late vogue for picturing this and that has widened the field to include almost anything that does not or cannot move under its own power. Christine Fletcher preserves the old tradition in several baskets of fruit and keeps tones and textures with nice skill. Fred Korth goes in for some texture work along with a little plain geometry. I don't know what the latter is supposed to prove unless it be Mr. Korth's flair for "pattern" and accurate technique. Two of his subjects which got my eye were symmetrical arrangements of crackers and roofing tiles. If I were Fred Dapprich I'd surely accept both but I cannot imagine anyone getting much of a rise out of this material except those who have photographed everything else in the world but crackers and roofing slates.

Gordon Coster shows a cute gag which must have some use, some place in the scheme of things although right quick I cannot think where. Knowing and respecting Mr. Coster's work, I'll bet he'll spring it on some advertising agency as a "before and after" specimen. It's nothing more or less than a portrait of a very personable young lady in partial reversal. I'll explain. The right side of her attractive countenance is presented much as it should be while the left is in negative. He calls it "an Experiment in the Reversal of Image". I'd call it a success up to the point of submitting it to the agency. But one can never tell what the agency boys will go for next!

J. E. Borrenbergen is conspicuous with several subjects the like of which we have the usual allotment but his things are so nervous-looking. Just my way of trying to convey a feeling of intense activity in apparently congested water traffic. Big steamers, smoke and the atmosphere of a busy port. Kirby Kean works with somewhat the same material except to depend more upon broad heavy masses with effectual placement of values.

Our Japanese contemporaries offer nothing new this year but repetition of truly fine work never becomes tiresome. There are several of the well recognized shots along the the damp sands of the sea-shore, typically oriental arrangements with the inclusion of a dainty figure. Midori Shimoda's "Bi-Sho-Jo" is a particularly enticing half-length figure shot which, except for its informality might almost go for a portrait. A young Japanese girl, delightfully spaced in the frame and with a smile which takes my mind off my work for the moment. Mitsutaro Fuku's marine, "Lull", shows a trick in composition which emphasizes an almost obscure boat 'way off in the upper starboard corner; oily swells in low tones, remarkably well held, completed a lesson to many less skilled in the elements of bromide printing and the rudiments of composition.

If I could command a more ample store of things to say about things which require having things said about them, I'd go into a couple of pages about the unusually liberal amount of winter scenes sent



"Ethelreda"

Joseph V. Dorin

18th Los Angeles International Salon

in this year. Maybe we've had just as much on other occasions but if so there were too few which linger in my memory. Dr. Ruzicka had some nice ones last year and comes back with one which stops me cold. Done in frigid blue it has, in addition to its other merits, a decorative motif. Alvin Greiner does something along the same lines and accomplishes some pictorial refrigeration that chills clear thru my winter lingerie. He calls it "Winter's Ornamentation". Helen Farrell, though, offers one which is still colder, if possible, for it plays upon my sympathies—makes me forget how frozen I just was in my concern for a covey of little birds cowering in the meager shelter of a wisp of weeds sticking thru the snow. Her title, "Why didn't we go South?" almost induces a plug for California (adv.) but it isn't too warm here right now!

Leonard Misonne is with us of course and of his group I choose "Les Grandes Ornières", a bleak rural winter scene done in the manner which has become one of our annual thrills. My French is a bit frazzed after fifteen years but if Ornières refers to the condition of the road, in this scene, I'd jump to the hasty thought that our own "ornery" is a fairly accurate interpretation!

Samuel Birn, a new name to me, contributes four very nice foreign street scenes in a style which is modernism in its most acceptable form. Not the sort which a limited vocabulary would put down as goofy by any means but the kind of thing which was done years ago before "modernism" was the ugly word applied to anything displaying intelligent, imaginative treatment. Mr. Birn's style will wear long with this observer.

Aurel Abramovici sends a couple of shots which I strongly suspect are the residue of material from which offerings were made here a couple of years back. That doesn't hurt them a bit with me. Perhaps I like them better for their ready recognition. A pair of spring-board athletes caught in mid air above a pool is as nice a piece of premeditated luck as one encounters. Another, a close-up shot of an attractive girl just emerging perhaps from the same pool—if it matters—is one which ought to have some advertising value for something or other; for the time being, the girl herself as far as I'm concerned!

William Rittase relents a little from his more usual modern—I'm getting to dislike this word—treatments in a nice little shot which he calls "Day Dreams". Just a kid lying on his back looking up into the sky from the mossy bank of a stream. I hope his dreams come true better than mine ever did for that was my favorite posture and vocation at that age. And still is! A montage of the Century of Progress Exposition by this accomplished craftsman looks like a whole lot more work to a lesser purpose.

Earl Baird has been poking around down at the Hoover Dam (or Boulder, if you're a Democrat) and shows a powerful subject quite typical of what one could scarcely evade getting in that locality. Fancy shooting anything light and delicate down in those diggings!

W. F. Winter does some nice things with interior architecture. Faultless mechanically, they're perfectly grand according to all the notions of composition I ever absorbed. Robert Barrows satisfies those



"Morning Wind"

M. Neumüller

18th Los Angeles International Salon

same notions too with a purely technical essay in curves. My esthetic instincts are not especially aroused over a geometrical arrangement of empty amphitheater seats but I'll venture the guess that he came back with just what he set out to get. Which is an accomplishment, when you stop to analyze it.

"Grass", by Oliver Berg is a thing which does, however, appeal to me as a dandy bit of decorative work with little or nothing but a few stalks of tall grass against a dark sky. I'd be stumped to explain why this sort of thing makes any special appeal beyond the obviously skillful photography but I like it. Malcolm Geoffrey does practically the same thing and to the same end as far as I'm concerned. Hizzoner, Judge Dapprich might delete one or the other on account of this similiarity but they're still good shots.

I don't believe I've said anything about this judging business so I'd better get about telling you that the Salon selections are in the hands of one man again this year. But don't get all worried that judgment will not be conducted in a fair and impartial manner. Fred Dapprich has judged lots of shows and shown lots of judgment for almost as many years as most of us have been making pictures. He has ideas of his own—which is a golden attribute too often lost in the shuffle of these gang juries. But Lord, what a joy to see a man go thru a thousand or more prints in only a couple of hours, saying nothing to anyone, quietly weighing one quality against another giving a man a break where he was, so to speak, on the fence and tolerating nothing that could not stand up under appraisal as good photography. This one-man plan of ours might open us wide up for a lot of unenlightened censure but no one who has wrangled thru the conventional jurying of a salon can suppress the thought that there must be some better way of getting a representative bunch of prints together than the conventional "heads-I-win-tails-you-lose" procedure of the past.

Irrespective of what opinions you may entertain, the net results are in favor of simplifying even the manual labor of looking over and handling a great many photographs by several persons whose collective ideas are formed on the basis of barter.

There is no such thing as a fair and impartial jury. This is no axiom coined from the fertility of my own personal thinking equipment but a cold matter of fact. Get on a jury some time and if you talk faster and louder than the others, it's a one-man affair. Selection by "silent manual" is another comical way of trying to assemble a show. We tried it just once—gave all the boys ballots so no one would know what was on their minds. In this instance, out of some fourteen hundred prints, sixty-three subjects were accepted until the committee pointed out the circumstance. Then they got together and we got a show. But what a lot of talk it used up!

If your prints were accepted, you'll agree with me; if the Judge overlook you, our system will cause a howl. If you're in, the choice was unanimous; rejected, you were ruled out by but one vote. Among the latter, you'll at least be glad that a gang had no hand in it. Unquote.

Notes On The Miniature Camera

William Mortensen

IV. Glorifying the American Snapshot

"**A**ND here," said Aunt Fannie, turning another page of the album, "are some pictures that Henry took when he was in California last summer. He's got one of those German Leeka cameras. . . . Yes, that's a mission. They say that those California missions are awfully romantic, but this one looks kind of run-down to me. It doesn't look much more romantic than Jim's old barn, does it?"

"No, I don't suppose that telephone pole was put there by the Spanish Fathers, but it shows up real plain, doesn't it? That's Henry's girl Hattie. She's real cute, though you might not think so. Junior always squints like that when his picture is taken. And that's Min and Herbert back there. You mightn't recognize her from that angle, but that's who it is. Henry says those are flowers back there, and that the colours are real pretty, but it looks like a patch of Jimson weed to me.

"Now, this picture was taken at the mission, too. That's Hattie and Junior again. My, I don't see why people have to go clear to California just to get pictures like *that*, do you?"

"When Henry got this new camera he was sure he was going to get lots better pictures. He paid an awful lot of money for it, but I think he'd have done much better to get a new rug for the front room where he spilled his nasty chemicals last fall. I'm sure I can't see a mite of difference between these pictures and the ones he used to take with his old camera. And that only cost a dollar and a half."

* * * *

Miniature cameras are adapted to many different purposes. They



*"That's Henry's
girl Hattie"*

efficiently lend themselves to scientific, pictorial or recording uses, to copying or photomicrography. But of the approximately two hundred thousand miniature cameras now in existence, it is safe to estimate that one hundred thousand are principally devoted to the same use to which Henry put his—that of personal record and sentimental chronicle. And of the rest, many no doubt are occasionally turned to this purpose.

It is, of course, a perfectly human thing to wish to perpetuate moments that have pleased us. All things are fleeting in this world: existence slips from under our feet, day by day the face of the world alters, and yesterday's infant is today graduating from college. No wonder we are all possessed with this insatiable desire to grasp a few grains of solid reality amidst this elusive flow. It is a pathetic but definite protest against the immutable law of change. More clearly than anything else, pictorial records of events and persons seem to halt for a moment the relentless ravages of time. Just for an instant, as we look at an old picture, the irrevocable years exist again, and today and ten years ago are one.

So, as long as there are cameras and people to use them on, we shall undoubtedly always have records of Sister (age three months) in her bath, Junior on his first bicycle, Father and Mother and Towser on



"Yes, that's a mission"

the front steps, Grandma on her eightieth birthday, that backyard of the old house and the front yard of the new one, the family in the mountains, the family at the beach, and so on and so on—each one a tiny morsel snatched from the jaws of devouring time. And if the years recorded are those previous to 1929, we may see Junior on the Acropolis or Sister feeding the doves at Saint Peter's.

Unhappily, such record pictures are usually bad. In fact, their badness is a matter of well-established tradition. In past articles I have, I fear, permitted myself some rather unkind jeers at the snapshooter and his snapshots. But my jeers have been directed not so much at his ideals as at his results. Often, of course, the snapshooter is blind to the faults of his product. Sentiment attaches him to his pictures and justifies them in his eyes; the pathos of distance, the kindly haze of the years, hides all faults. But to say, as many do, "I know they are lousy, but I like 'em" betrays a considerable depth of sophistry and not a little pig-headedness. Indeed only sheer stubbornness can explain why so many persist in their box camera habits after they graduate into the minicam class. For the conversion of the conventional snapshot into something pictorially presentable lies well within the technical ability of the average amateur. It is largely a matter of obvious precautions at the time of taking the picture, together with a little analysis of the material.

Accidental in their conception and casual in their arrangement though they are, there is no reason why such records of everyday events should not be given a more effective pictorial presentation. Those precious moments that we clutch at while existence races past us are certainly deserving of the best possible setting that we can give them. This in no wise detracts from their value as records, but definitely enhances it. A photograph to which some care has been given to make it a *picture* as well as a record preserves, much more truly than the casual snapshot, the vital essence of that moment or event which made it worth saving. All too often the snapshot conceals or distorts the real meaning of the moment that it preserves from oblivion. The snapshots of Sister (age three months) in her bath may be amusing, but they have been known to be quite embarrassing to Sister when seventeen years later they fell into the hands of her boy friend. Telephone poles encroach on the beautiful prospect; it was not the telephone poles that endeared the view to us, but there they are, as large as life and a great deal more conspicuous. Nor did this young lady once fill us with ineffable thrills and strange longings because she squinted when she looked at the sun and was apparently dislocated at one hip; yet those are the facts that the snapshot seems to have recorded.

The faults of the snapshot are well known and recognized. In last month's article I mentioned a few of them. The most obvious and immediately apparent of these faults is, of course, extreme contrast, resulting from the snapshooter's evident conviction that the only way to get a picture is to put the subject in the direct glare of the noon-day sun. All-too-familiar are these studies in lamp black and chalk, from which a skull-like face peers painfully. This devastating contrast is a fundamental technical error which marks almost all the work of the snapshooter, and is not absent from the work of those who fondly imagine that they have passed beyond this stage.

Of course, in the nature of things, it is not to be expected that record pictures will be flawless in composition. But there are certain vicious and flagrant errors that one hopes that snapshooters will eventually outgrow—and hopes in vain, for the same errors inevitably appear in each fresh batch of snapshots. Almost always we find too much material in these pictures, and a perverse or obstinate ignoring of the fact that a picture has room for *one and only one* item of engrossing interest. Strangely shaped unidentified bits of foreground insinuate themselves into the picture, wierdly irrelevant objects are accidentally included, and insistent white patches in the corners of the picture lead the eye astray.

Snapshots exhibit also certain well-standardized errors in handling the subject ("posing," to use the academic term). Sometimes the subject is caught unaware in an awkward posture of unbalanced and violent action. The opposite extreme to this condition is afforded by the subject that is simperingly over aware of the camera, and puts forth a painstaking and pain-giving effort to be "cute."

Look, for example, at the pictures from Aunt Fannie's album which are presented herewith. They are, I think, very fair specimens of their



"Old Stone Church, San Juan Capistrano"

William Mortensen

species, and do not libel the average snapshooter, however much they may libel the subjects.

Notice the first picture. Henry wanted a pictorial record of his visit to the mission, not merely to prove that he had been there, but to preserve for himself in the future a little suggestion of the spirit of the place. So he pointed his camera in the general direction of the mission, herded Hattie and Junior within range, and blazed away.

Alas for Henry! See what he got.

As far as giving any impression of the spirit of the place is concerned, the old mission might as well be a hay barn. The ubiquitous telephone pole, which Henry failed to notice, looms large and incongruous. Hattie is aggressively conscious of the camera, Junior also. The square white opening in the wall assaults the eye and compels resentful attention. Lines lead nowhere and mean nothing. Contrasts are harsh and meaningless with blacks and whites sprinkled indiscriminately about the place. And the bright colours of the garden are completely lost.

As to the other picture, bad as it is, it is representative of a type of snapshot that is made by the million every year. Of background and persons it gives a factually accurate but none the less libelous rendering.

These photographs are valueless as pictures, and have very little value as records. But the material for good pictures that would at the same time be accurate records was available to Henry all the while.

What should Henry have done?

The ugly fault of excessive contrast will yield to a little care and persuasive attention. If there are any clouds in the sky, wait, if possible, till they cover the sun. Even a slight veiling will much mitigate the harshness of the light. If there is available shade, take advantage of it. If it is necessary to place the human element of the picture in direct sunlight, make use of a reflector. Any sort of makeshift will serve to get a little light into dark places—a handkerchief, a piece of tinfoil, a compact mirror, or the shirt-front of a conveniently available gentleman.

As to (faults in) composition, the obvious and usually disregarded counsel is: take some note of what the finder shows other than merely roughly centering the principal object in the field of vision. Often the most trifling shift in view point will serve to eliminate undesirable matter from the picture. Learn to disregard colour and think in terms of tone values. Much film has been wasted on hopeless subjects because the colours when viewed through the finder were bright and attractive. In general, work in terms of *close-ups* rather than of wide prospects in which everything sinks into uniform unimportance. A few details of a building will usually tell more and mean more afterwards than a whole front elevation. This method of presentation automatically prevents the inclusion of large areas of bleak and uninteresting foreground, and forces one willy-nilly to take some account of composition.

Before plunging into a subject that pleases you, spend one analytical moment in determining what particular *element* it is in the subject that attracts you. Is it personality or architecture? Is it a matter of fact or a matter of sentiment. In a landscape, is it the design or the intrinsic



"Mission Walls"

William Mortensen

importance of the subject matter? Having thus decided what should be the dominating theme, proceed to make it dominate. This will require particular care in combining people and backgrounds and in apportioning emphasis to each. Nothing is more disturbing than an ambiguous picture in which there is room for doubt whether the background or the person in front of it is supposed to dominate. When an architectural subject is the principal interest, be very chary of introducing people into the picture: either eliminate them altogether or else unmistakably subordinate them. This subordination may be accomplished by placing them with their backs to the camera, by submerging them in shadow, by avoidance of action, or by making sure that their *thought* expresses the spirit of their surroundings.

Guard against trying to put too much into one picture. Let a canny Caledonian thrift guide you in your expenditure of picture material: imagine, if you please, that each item you put into a picture costs you five dollars.

But in the expenditure of film take for your guidance rather the example of the proverbial drunken sailor. Film cost is one of the lesser evils on the bill that the minicam owner has to deal with on the first of the month. So don't be foolishly and needlessly economical of film. If a thing pleases you when you look at it through the finder, take plenty of exposures. Not by prayerful preparation and painstaking calculation climaxed by a single exposure does one get pictures, but by a wisely directed "film jag". This procedure usually solves the problem of the self-conscious, camera-conscious subject—smirking or frozen-faced. In the enthusiastic squandering of two or three rolls of film, photographer and subject achieve a spontaneous cooperation that leads to good pictures.

See what Henry might have secured had he looked a little further and exercised more careful selection and analysis. (These pictures were taken the same day as those we have just been discussing, half an hour later, when a slight fuzz of cloud softened the light.) The corner of the cloister and the bit of crumbling wall tell, much more clearly than any general prospect, of the mission's present intimate charm and past magnificence. In "Mission Walls" personality and background are combined without conflict. Hattie is definitely subordinated to the background. She is so placed that she becomes a part of the pattern of the arch. And through her attitude and thought is made manifest the spirit of peace and world-forgetting that flows from these old, sun-warmed walls.



"Cloister, San Juan Capistrano"

William Mortensen

Modified Development For Infra - Red Photography

B. W. Leroy

FOR some unaccountable reason, infra-red photography has remained a closed book to most amateurs, and it is high time that camera enthusiasts availed themselves of the wonderful opportunities it offers. This branch of photography does not, perhaps, provide the "dyed in the wool" pictorialist much in the way of diversion, but it is certainly fertile ground for the worker who likes to experiment.

For those unfamiliar with this type of emulsion, it would be well to review briefly here the characteristics of infra-red plates. As is well known, moisture haze in the atmosphere, from its invisible state up to a more tangible form, creates havoc in the recording of distance detail on most photographic films. This is due mainly to the fact that virtually all photographic emulsions are very sensitive to the violet and blue rays which simply cannot pass in orderly array through this haze. The longer wave lengths however, such as the red and particularly the infra-red apparently have no difficulty in passing through even a dense haze, and consequently record themselves as they should on emulsions sensitive to their special wave lengths—provided of course that these emulsions are used with the proper filters.



Taken at 6:30 A.M., 6/24/34, on E. K. Commercial Ortho, with K-2 filter; 1 sec. at F:16, bright sun, in Oregon



Taken at 6:30 A.M., 6/24/34, on E. K. Portrait Pan., with A filter; 1/2 sec. F:16, bright sun, in Oregon



Taken at 6:30 A.M., 6/24/34, on E.K. type 1-R Infra Red plate, with A filter: 10 secs. at F:16, bright sun, in Oregon

It is evident then, that plates sensitive to the infra-red exposed through a filter which cuts out all the violet and blue rays, will record with marvelous detail objects and landscapes at great distances.

Among the many filters which can be used with these plates are the Wratten G, the tri-color A#25, and also the #70, #88-a, #87, #89-a but it will be found that of them all, the tri-color A-#25 will give the most satisfactory results under almost all conditions. As none of these filters, except the #87 cuts out any of the infra-red rays, it will be found that all require the same filter factor. Should the #87 be used, a correspondingly longer exposure must be given as it absorbs some of the infra-red. It is recommended, however, that the beginner start with the "A" filter only, as it will serve him best until he desires to branch out into more specialized endeavors.

As in any other field of photography, there are certain knotty problems which confront the beginner. One of these is the difficulty of obtaining definite information as to just how to go about it, and it is the intention here to simplify and list directions so that little or no trouble may be encountered. These hints of course will only apply to the fairly normal conditions such as would be found in making the usual summer landscape shots.

Photographers will find in working with infra-red plates that, due



Taken at 1:00 P.M. 6/3/34, on E.K. Commercial Ortho, with K-2 filter; 1/5th sec. at F:16, bright sun, in Oregon. Compare with picture on Page 77, and note the difference in results obtained with the Infra-Red plate

to their sensitivity to the longer light waves, they give a very unusual rendition of tonal values. As green foliage is a very strong reflector of the infra-red, trees appear as though covered with snow, blue sky is black, and shadows are very lacking in detail.

These characteristics can be somewhat modified however, with proper manipulation; particularly with reference to that distracting "creep" or over-run of green foliage. In order to overcome this effect to a certain extent (greens will always be light due to their reflecting power) it is necessary to over-expose and under develop within certain limits. The Eastman type 1-R plates experimented with, proved capable of giving good printing quality even with gross over-exposure and under development. It is not necessary to go to extremes though, particularly for those of us who work in the western part of the United States, as most of our foliage consists of the firs and pines which, in their more somber greens, photograph very well.

By following directions given with these plates, one would give (under normal lightings) about two seconds at f/16 with an "A" filter. This, followed by a development of five minutes at 65° in the recommended D-19 developer, would give a very contrasty negative. Upon printing, the greens would be distractingly white, the shadows absolutely without detail, and the finer shades of tone entirely blocked.



Taken at 1:00 P.M. 6/3/34, on E.K. type 1-R Infra-Red plate, with A filter; 4 secs at F:16, bright sun in Oregon

It is rarely that the photographer can disregard directions given out by the factory and attain any degree of success, but in this instance these changes are suggested because they have always given results under a great variety of conditions. So instead, give four to six seconds at $f/16$, and develop for seven to eight minutes at 65° in a normal A B C Pyro tank solution. The result will be a more balanced negative, with the greens not quite as dense and with more detail in the shadows.

Exposure for infra-red material is quite an unknown factor, and exposure meters will be found to be of little help. Atmospheric changes, invisible to the eye, seem to effect these emulsions to some extent so that it is advisable to give ample exposure always, and under develop at least a third of the given time. After many trials with the type 1-R plates, it was found that exposures ranging from three to ten seconds at $f/16$ would cover the normal range of shots; allowing for the under development which is recommended here. Late afternoon shots will require many times the exposure of a mid-day exposure due to the loss of heat rays as the day closes.

A few other precautions are necessary and should be followed rigidly if the best results are to be expected. Sharper negatives will be obtained if the photographer focuses with the "A" filter on the lens and then stops down to the desired aperture. Also, a fine ground glass will aid considerably in obtaining the proper focus, as the coarser variety

of ground glass together with the dense "A" filter, makes focusing difficult with the slower lenses. As most infra-red shots are made out in the open with a good deal of extraneous light, an efficient lens hood will help to get a sparkling negative.

These plates may also be hypersensitized with ammonia to increase speed, but as most amateurs are ill-equipped to carry out this rather delicate process, it will be best to let well enough alone. Hypersensitizing increases the speed of these plates about three times and for those interested, the procedure is as follows: a solution is made by diluting four parts of 28% ammonia in 100 parts of water. The plate is bathed in this for about one minute at 50°—in total darkness of course. Streaks and spots will result if the plate is not dried as rapidly and evenly as possible.

Infra-red plates should be handled much the same as any other photographic emulsion except that they are very sensitive to heat and should by all means be kept in a cool place. Attention must be called to the dark slides used in the plate holders: the old type hard rubber slides are not opaque to the infra-red rays, and will result in fogged negatives. Cardboard or metal slides however, may be used with safety as can the new type hard rubber slides identified by the five dots on the top.

Tank development with a plate rack has proved to be the most satisfactory method, as undue handling with warm fingers will cause uneven marks and frilling.

Amateur photographers may be sure that infra-red photography will prove a fascinating field, and at the present time its possibilities seem unnumbered. Its miraculous cutting power into distances is itself a thing to marvel at, and it is fast proving its efficiency in photomicrography, plant biology, medicine and criminology. This emulsion is also available in 35mm film, which should be an added attraction for miniature camera users.

Miniature Camera Technique

Edwin C. Buxbaum, A.R.P.S.

Part III

THE success of the miniature camera is more dependent upon the treatment of the film after it leaves the camera and enters the developer than on any other subsequent operation. In the developer, we determine whether or not the image will be fine grained, whether it will have sufficient contrast to give a good projection print, and whether it will emerge free of all blemishes ready to enlarge to a print of large dimensions. Here again, as in the careful handling of the camera and

the film during the taking of the picture, care is also of the greatest importance.

The very act of taking out the film from the roll is important in miniature camera technique. The small films of the type used by the cameras taking pictures 3x4 centimeters are curled on a roll of very small diameter and consequently have a very great tendency to roll up at the slightest opportunity. This presents a problem in development as it is very easy to scratch or hurt the sensitive emulsion. For this reason, it is best to always have a bath of water ready in which the film can be immersed before being placed in the developer. The water bath takes the curling tendency out of the film and wets it thoroughly at the same time so that the developer can reach all parts of the film easily. In the case of tank development, a water bath is always given as a matter of course.

All solutions used in the development of miniature films should be filtered before use. All solutions of chemicals, even when filtered at the time that they are made up, will collect some material that will settle out. If allowed to remain in the solution, these small particles will settle on the film and prevent the developer from reaching the emulsion. These particles may be foreign matter like particles of dust that have collected around the stopper of the bottle and fallen in or they may be crystals which have been deposited out of solution after the solution has been standing for some time. In some cases, these particles may be small specks of hydroquinone or metol which if allowed to remain, may settle on the film and cause intense development wherever they settle resulting in black spots on the negative. Filtration of the fixing solution is also important for similar reasons.

Filtration in the case of the developing solution is especially important because in the case of many fine grain developers, the salts present tend to dissolve some of the silver salts of the emulsions and precipitate other compounds which would mechanically obstruct the action of the developer.

The prevention of air bells or bubbles can usually be prevented in tank development by frequent agitation or shaking of the tank. In tray development, the hand or fingers can be run over the emulsion gently. Development should be by time and temperature as the inspection method presents too many difficulties with small negatives. In draining solutions from a development tank, it is a good idea to place a glass funnel into the solution bottle and let the contents of the tank drain into the funnel by putting the tank on its side supported by the funnel.

Temperature control of the developing solution is of great importance and five degrees difference from the stipulated temperature can make all the difference between fine and coarse grain. When solutions are to be cooled, this can be done conveniently by using a glass beaker containing the solution to be cooled which is placed in a larger dish which contains cold water or ice and water. In the same way, a solution can be heated a few degrees very quickly and accurately.

Many amateurs do not realize the importance of the hardening agent

in the fixing solution and leave it out thereby courting a lot of trouble. It is very important for the miniature camera operator to use a hardening solution as this makes the gelatine emulsion much more resistant to scratches and other abrasions. If you wish to see this in an experimental way, develop a film and fix half of it in a solution containing a hardener and the other half in hypo alone. In the unhardened fixer, the film can be peeled off with a finger nail while in the hardened part, the film is tight and has a peculiar feel between the fingers which can be felt immediately the hardener has taken effect..

While the silver emulsion is quite insensitive after it has been in the hypo for a short while, it is not a good idea to complete fixation in a bright light as some do. As long as there are unfixed silver salts present, there is a chance for reduction and some fog, even in fixation.

As far as the production of fine grain goes, there is not much that can be said except that the conditions of temperature, time and concentration of chemicals in the developers should be adhered to rigidly. Not only should the temperature of the developer be held constant within narrow limits but the temperature of the other solutions should not vary more than a few degrees from that of the developer. Stop bath, fixer and washing water should all be around the same temperature of the developer. Reticulation which is a shrinking of the gelatine layer results from changes of temperature in the different solutions involved in development of the film. This reticulation when of a small degree resembles grain very closely although when markedly present presents an entirely different appearance which is readily recognized in the shape of an irregular network over the entire negative.

The factors which are conducive to the formation of fine grain are certainly not all known. The fact that various experimenters do not get consistent results with the same developers shows us that there are factors involved which are yet unknown. As far as we know today, the various factors involved in producing fine grain might be listed tentatively in the order of their importance.

- (1) The emulsion. The fine grain emulsions are slow and color blind like positive film. The coarse grained emulsions are panchromatic. The manufacturer of the emulsion has probably the greatest control in the grain of the image.
- (2) Development with a fine grain developer is probably of equal importance. Low alkalinity combined with high sulphite concentration is favorable. Physical-chemical developers hold much promise.
- (3) Temperature is of great importance. Even temperatures in all solutions is of necessity one of the requirements of fine grain work.
- (4) Conditions of storing the film, drying and agitation are relatively minor factors in the production of grain. While they undoubtedly play a part, they do not affect the grain in the proportion exercised by the first three factors. The personal equation and unknown factors probably still enter more than our scientists would like to admit.

If physical development is attempted, an all bakelite tank is best. Some amateurs in order to save time, have hit upon the trick of devel-



"Steierische Küche"

Georg Ebenhoh

18th Los Angeles International Salon

oping two films at the same time by placing the two films back to back and exposing the emulsions outward. When this is attempted, in a tank of the Correx type, one must be certain of the positions of the emulsions as otherwise one film will probably be fixed out completely without development. Another hint, if you wash your films with a faucet of the "mixer" type which conducts both hot and cold water, be sure you are circulating the cold water as hot water will wreck your sensitive emulsion in no time at all. It has happened before, you know!

Drying of the film presents no especial difficulties. Before drying, it is best to remove the surplus water. Many amateurs use a chamois for this purpose and this is excellent if it is a good chamois used properly. You cannot take a poor chamois and wet it with cold water, run it down the film several times and hope to have a negative free from scratches. In the first place, it is necessary to have a smooth chamois without rough surfaces that scratch the emulsion. The usual Woolworth chamois is too rough for a sensitive emulsion. When you do pick out a chamois, pick out a good one. And, start to soak it in warm water at the time you start development so that it will be very soft when you are ready to use it. Before use, take it out of the water, squeeze it dry and soak it in water about 65 degrees for a few minutes before use. One thorough

wiping of the film should be enough. The excess water on the back of the film may be wiped several times. Used in this manner, the chamois will introduce no scratches. Cotton may be used for the same purpose if wetted first and will not scratch. If you will examine a piece of cotton after it has been used to wipe a film, you will be surprised at the large amount of extraneous matter clinging to a film. In connection with obtaining a clean film, it is a good idea to give the film a distilled water rinse after washing with tap water.

If drying is done with a fan, it should be done in a dust free room as otherwise it may do more harm than good. When the emulsion has been wiped and has been drying a short time, it has a peculiar tacky surface which will hold any dust that is deposited on it partly within the emulsion when it dries. Such particles are very hard to remove after drying. A clip is useful as a weight to prevent the film from curling. Too rapid drying in warm dry air is not to be recommended, as it is likely to introduce incipient reticulation. A mild circulation of air with a humidity near that of the dark room is best. Arthur Purdon covers this point well in a letter appearing in the Correspondence Dept. of the February 1934 issue of this magazine.

The storing of films of the miniature variety is quite a problem. If they are films of the 16 exposure type, they can be cut up into small strips. Regular movie film can be kept in rolls or cut up into strips. If kept in rolls, there is always the chance of abrading the sensitive emulsion besides the nuisance of looking through the whole roll of 35 pictures to locate one desired picture. Another scheme is to cut the film into strips containing five or six negatives and then keep these strips in large envelopes. This permits a classification. Some like to make contact prints of their negatives and use them in a book as an index of the negatives in a certain container. The strip method of keeping negatives offers the advantage of keeping the film flat at all times and making inspection easy. I believe that it is the preferred method.

The number of negatives that one accumulates with the miniature camera can become appalling. If you are of a systematic mind, you can easily devise an elaborate filing system involving contact prints, albums and other accessories taking much trouble and more time. The stock books that stamp collectors use containing linen pockets can be very nicely adapted for storing negatives and can be purchased very reasonably. If you are less particular about your classifications, you can classify your negatives by subject alone and in a series of envelopes include, portraits, baby pictures, landscapes, modernistic views, still life and so on. Some miniature enthusiasts I know cull out their negatives regularly every month and throw away many of them. This solves the problem immediately in a drastic way. Undoubtedly there are more negatives unworthy of preservation made with the miniature cameras than in the larger cameras where the cost is much greater. In whatever way you preserve and classify your negatives, it is well to have them in such form that you can get what you want when you want it without too much trouble.

In looking over a lot of negatives, it is well to make up some kind

of viewing arrangement. The best light that one can use for such a purpose is a light back of a ground glass. This presents a matte surface, softly lighted which makes such viewing very easy. Those of you who have searched in the dark room for a wanted negative will appreciate the convenience of such a light in an inconspicuous corner.

In any work involving an article as small, sensitive and delicate as a miniature camera negative, the utmost care is necessary. And, when we consider how much the outcome of the final print depends on the operations of development and fixing, we will use all the pain and effort that we are able to and arrive at a negative properly developed, fixed and dried without coarse grain, hardened to resist abrasion, without scratches or marks and ready to be projected into the final print, a thing of beauty and a joy forever.

Cinema Section

Edited by

William A. Palmer

The Future Of Amateur Talkies

As a result of the recent introduction to the amateur movie world of a 16mm. sound recording camera, built by the R.C.A. Victor Company, there has been a good deal of conjecture as to the future of the art of personal movie making. Are amateur movies going to be completely revolutionized by the talkies as was Hollywood a few years ago? Is the present silent equipment obsolete? Such are the questions that are being asked.

It is certain that there is to be an expansion of the knowledge and vocabulary of the movie maker. Such terms as synchronize, galvanometer, exciter lamp, and modulation will be everyday terms and the ever present caution to amateurs to "Hold the camera steady" will be augmented by another, perhaps more grammatical:

"Enunciate clearly!" But what of the effect on the technique of amateur movies as we now know it applied to silent pictures?

While in these days of rapid technical progress it is not safe to be too definite in one's predictions, we do not anticipate a revolution as amateur movies become sound-conscious nor obsolescence of the present silent equipment. The tools of the movie maker have been wonderfully improved by the camera that will record sound, but sound movies have some limitations that make it improbable that many will stop making silent pictures entirely, favoring those with sound. The situation is much the same as that of Kodacolor. This color process we know is capable of producing pictures in natural color, the

beauty of which has never been surpassed by any other color process, amateur or professional. Yet, Kodacolor has certain limitations—it cannot be used under all lighting conditions and many subjects are not suitable for color photography. No one now thinks of ordinary black and white movies as obsolete just because we have color pictures. Thus it is with amateur talkies. They offer a medium of expression that for some subjects is unsurpassed but which is not suitable for certain other subjects. Let's see what these limitations of sound pictures are.

Sound pictures need much more preparation and planning than silent films do. (This is a limitation to the production of impromptu movies but by no means a detriment to really fine pictures. On the contrary, it is a great aid.) Recording of synchronized dialogue is often very difficult when the acoustic conditions of the surroundings are adverse. Editing of the finished film is not so flexible, for if one wants to cut down the length of a certain scene, he must be mindful of the sound track and be sure that a sentence or a word of descriptive talk is not chopped in the wrong place.

On the other hand there are the great advantages that the talkies have over silent pictures. The opportunities for creative expression are increased many times and the serious worker has a very wide field of experiment thrown open to him.

The technique of amateur movie production in photoplay form should not be altered materially when sound is added. Talkies are primarily visual and the uses of varied camera angles, intercut close-ups and long shots, and all other devices of cinematic form that have been tried and found to be an integral part of good silent movies, must not be suppressed. Sound must be considered a very valuable addition to the art of moving pictures, but microphone needs should not be allowed to become too dictatorial.

There is a temptation for the owner of a new sound camera to forget all about camera technique and shoot long continued scenes in which there is little action save the movement of chins as memo-

rized lines are spoken by the amateur actors. Such procedure is merely the presentation of a stage play by proxy and loses most of the advantage that movies, because of the shifting viewpoint of the camera, have over the stage performance. There is a temptation also to believe that every scene of a sound picture should have some dialogue or descriptive commentary. This again is a mistake, for very often the greatest force can be achieved by a scene played in silence with a few significant gestures to carry the meaning. Synchronized dialogue should be considered to be a very superior substitute for the subtitle and the film with sound track having few but important lines at intervals, with the proper background or thematic music, is most apt to be successful.

Then there is the other great division of amateur movie production into which perhaps the majority of amateur films must be grouped—the topical or newsreel type. With this type of film, cinematographic technique should be altered no more than is the photoplay when sound is added. Here the sound is usually in the form of explanatory lecture and may be added to the film in several ways.

The first and simplest manner of adding explanatory and descriptive talk to the film is through the use of the acoustic recording "newsreel" model sound camera. With this apparatus the photographer merely talks into the microphone in the back of the camera while the scene is being photographed. However, to achieve really satisfactory results in this manner one should plan the film and all the scenes in advance and write out the talk completely. If one relies too much upon impromptu comments which may pop into one's head at the time a picture is being taken there is apt to be a very sad lack of coherence in the trends of thought in consecutive scenes.

A second and perhaps more satisfactory manner of making the topical talking film is the procedure of photographing the pictures without the sound recording apparatus being connected, making careful note of the film footage indicator at the start of every scene. (The pictures can

be made in the "newsreel" model sound camera with the exciter lamp batteries removed, or they may be made on any regular silent camera which has been altered to run the film with perforations on one side.) A roll of film which has been photographed can then be rewound in a darkroom, an appropriate commentary written for each scene, and then rethreaded into the sound camera (either "newsreel" or "studio" model), the picture lens capped, and the lecture recorded in synchrony with the scenes as indicated by the footage meter. The timing can be perfected by practicing the speech as the camera is run without the film. With this procedure it is possible to get the context of the separate scenes to form a more logical train of thought.

The third method of topical film production, and incidentally the most complicated, is the addition of the sound track to films already photographed and processed. The picture is made with a regular silent camera running at 24 pictures per second (or sound camera using regular silent film) and the scenes are cut and edited to form the most pleasing continuity. The lecture is written and rehearsed as the silent film is run on a projector operating at sound speed. The lecture is

then recorded on a fresh unexposed roll of sound film running through the sound camera (the picture lens covered) as the silent film is projected on a screen before the lecturer. Both camera and projector should be running at the same speed but if there is a slight difference no great lack of synchrony should result during a hundred foot roll of film. It is usually not necessary that a lecture synchronize to the split second. The sound film as well as the silent picture is rewound and the picture film is printed onto the fresh roll of sound film which has just received the sound track recording. The processed roll of sound film will then have the sound and picture together. This method is somewhat complicated by little details of technique that must be observed, but it is the way in which silent film, made in previous years before talkies were used, can be brought up to date with sound accompaniment.

The ability to record sound track should appeal to those who have been projecting their films with musical scores furnished by phonograph records. Those people can re-record the music from the discs to sound track, where the timing and synchronizing, when once accomplished in the recording process, is permanent.

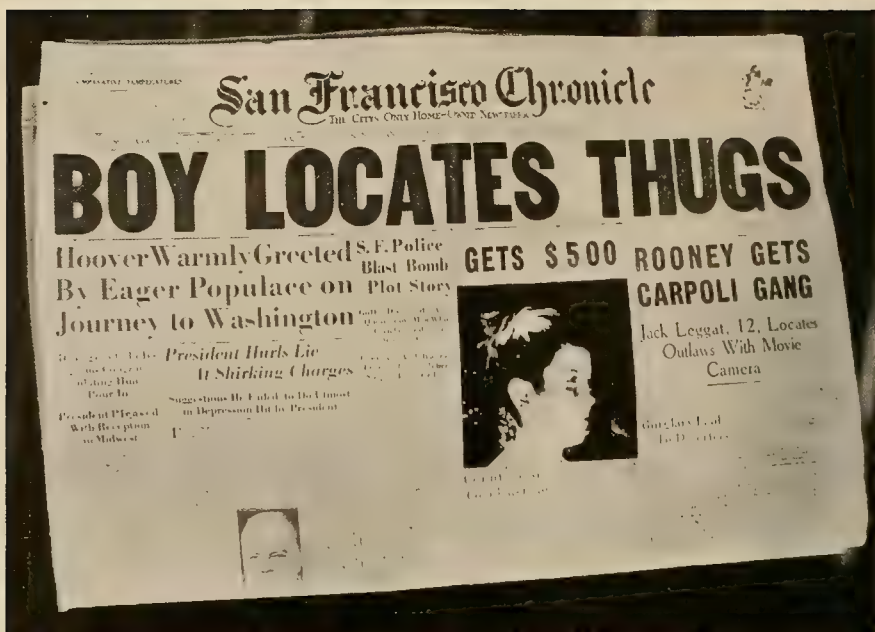
Newspaper Headlines To Fit Story Needs

Many times in the production of an amateur film story it is exceedingly useful to be able to show a newspaper with headlines telling some important event or development. The device is used frequently in professional pictures with very satisfactory effect.

When a Hollywood movie company wishes to photograph a newspaper with special headlines, a printer is called who makes a business of printing facsimiles of

any newspaper in the world with any story, headlines or photographs desired.

To an amateur, the cost of such special printing of course would be prohibitive and he must resort to other means. A very authentic looking newspaper can be fixed up by the simple process of cutting out the individual letters from the regular headlines of several papers until one has a collection sufficiently large to spell out the desired words on the special paper.



The Home-Made Newspaper

The letters then can be re-arranged and pasted across the paper. Any desired photographs can be put in by pasting ordinary photographic prints in place.

The finished job may not look very convincing on close inspection, but if photographed properly by diffused light so that the edges of the pasted headline letters do not show, the paper should look completely authentic. If the paper is held in the hand and moved somewhat during the photographing process, the faking is even less apt to be detected.

Questions and Answers

Question: Is super-sensitive film necessary for interior photography with photo-flood lamps.

Answer: No, but if regular panchromatic film is used the amount of light must be increased a good deal. This can be done by increasing the number of lamps or by placing the lamps nearer to the subject. At stop f 3.5, two photo-floods in reflectors, placed three feet from the subject are necessary for full exposure with regular panchromatic film. The

use of the less expensive orthochromatic films are not recommended for interior photography.

Question: Does the time of day make any difference in color rendering on Kodachrome film.

Answer: Yes, if one works late in the day, the sunlight is usually very much richer in red and yellow rays so that even if the exposure is correct, the color rendering will be distorted and greens and blue will appear very dark. As a partial compensation when the sunlight is very yellow, the ratio diaphragm for photo-flood lighting can be used.

Question: Are there any regulations governing the showing of movies in public places?

Answer: There are very strict fire laws governing the showing and storing of 35 mm. nitrate film, but since all 16 mm. films are slow burning acetate base there are no restrictions on the use of the sub standard film. Sixteen millimeter film can be shown anywhere without an enclosing booth.

Monthly Competition

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class: Merritt Gerstad, for the American Society of Cinematographers; F. G. Ashton, and H. F. Kells, for the Camera Club of Ottawa; William T. Lyon, for the Fort Dearborn Camera Club; and George H. Phillips, for the Los Angeles Camera Club.

The following won points for their clubs in the Amateur Class: James A. Kelly, for the Camera Club of Ottawa; and Harry E. Goodwin, and Leon C. Smith, for the Washington (D.C.) Pictorialists.

Contributing Clubs

Amateur Camera Club of Buffalo
American Society of Cinematographers
Artisans Camera Guild (Los Angeles)
Baltimore Camera Club
Bellingham Camera Club (Wash.)
California Camera Club
Camera Club of Ottawa
Camera Club of Richmond (Va.)
Camera Club of Syracuse, Y.M.C.A.
Cleveland Photographic Society
East Bay Camera Club (Oakland, Calif.)
Erie Camera Club
Fort Dearborn Camera Club

Golden Gate Leica Club (San Francisco)
Hamilton (Ont.) Camera Club
Japanese Camera Club (San Francisco)
Los Angeles Camera Club
Norfolk Photographic Club
Photographic Society of San Francisco
Pictorial Photographers of America
Pictorial Photographers of Victoria (B.C.)
St. Joseph (Mo.) Camera Club
Schenectady Photographic Society
Telephone Camera Club of Manhattan
Washington (D.C.) Pictorialists

Standing of Clubs

Large Clubs Advanced Class

Camera Club of Ottawa 9
Los Angeles Camera Club 8
Fort Dearborn Camera Club 7
Photographic Society of San Francisco 4
American Society of Cinematographers 1

Large Clubs Amateur Class

Photographic Society of San Francisco 7
Los Angeles Camera Club 3
Camera Club of Ottawa 1
Schenectady Photographic Society 1

Small Clubs Advanced Class

Japanese Camera Club 1

Small Clubs Amateur Class

Washington Pictorialists 9

ADVANCED COMPETITORS

Edward Alenius, A.R.P.S., Jamaica, N. Y.
Jack Arnold, East London, So. Africa.
*F. G. Ashton, Ottawa, Canada.
Edward Bafford, Baltimore, Md.
H. C. Benedict, Berkeley, Calif.
N. W. Crowder, Baltimore, Md.
Fred E. Crum, Spring Valley, N. Y.
Evelyn Curtis, Oakland, Calif.
M. K. Curtis, Oakland, Calif.
Fred M. Doudna, Washington, D. C.
K. Furukawa, San Francisco, Calif.
*Merritt Gerstad, Hollywood, Calif.
M. Gurrie, Chicago, Ill.
J. K. Hodges, Victoria, Canada.
C. M. Johnston, Ottawa, Canada.
Stanley R. Jordan, San Francisco, Calif.
*H. F. Kells, Ottawa, Canada.

Kichiji Kojimoto, San Francisco, Calif.
H. Luscombe, Los Angeles, Calif.
*William T. Lyon, Chicago, Ill.
A. Milotte, Ketchikan, Alaska.
John C. Moddejonge, Cleveland, Ohio.
John Muller, New York, N. Y.
*George H. Phillips, Los Angeles, Calif.
Francisco M. Quesada, Leon, Nicaragua.
T. H. Schuelke, Syracuse, N. Y.
R. Owen Shrader, Los Angeles, Calif.
J. O. Sprague, Syracuse, N. Y.
Dr. Max Thorek, F.R.P.S., Chicago, Ill.
Claude J. Williams, Los Angeles, Calif.
William O. Yates, Erie, Pa.

*Denotes prize winners.

(Continued on Page 94)

An explanation of the function and rules of these competitions will be sent free on request, or they may be found on Page 600 of the December 1934 issue.—Ed.



"Fire Fighters"

Advanced Medal Print

F. G. Ashton

■ It takes a good eye and fast work to pick out and catch a well organized composition from the confusion that prevails at the scene of a fire. Mr. Ashton has succeeded admirably in recording action and atmosphere together. His figures are so nicely placed that they might well have posed for the occasion, and he has made excellent use of the hose to establish a strong leading line. Here is a situation in which the advantages of a small camera operating at eye level will be obvious to all. For, the ability to get into action quickly; to make a number of shots in rapid succession, in an attempt to catch the best possible moment; and to be free of the obstructions that would interfere with a camera operated at waist level, are the very things which make for success. The picture is splendid just as it stands but it is interesting to ponder the desirability of adding a figure in the right foreground. Ideally, this should be the figure of a fireman, dripping wet, and looking and moving toward the two figures with the hose, which constitute the principal interest. It should be sharply defined, and should bring out the texture and wetness of the garments as much as is reasonable under the lighting and atmospheric conditions. It would be deep in tone, because close to the camera. To add such a figure by the methods of composite photography is not beyond the bounds of possibility, (though it would be exceedingly difficult to get it just right) but unfortunately the present print falls off in definition in the foreground so that we would have to abandon the sharpness of definition postulated in our ideal set of conditions. We are not suggesting that the composite should actually be attempted but are simply wondering for our own amusement and possible instruction, whether or not the picture would have been better if such a figure had been present when the exposure was made. It seems to us that such an addition is desirable for the following reasons. It would add a dark note to a picture which is slightly lacking in this respect, and would further enhance the already fine aerial perspective. It would break up the large expanse of foreground. It would add to the action and atmosphere of the scene. It would establish another line, psychological in this case, leading to the principal interest. We do not mean to infer by this that there is any lack of concentration in the picture as it stands, nor do we feel that the addition of a figure, as described, would dilute this concentration.

Data: Kolibri; F:4.5 Zeiss Tessar; 1/50th sec. at F:5.6, by diffused daylight, on E.K. Verichrome, in Rodinal; Bromoil print on Ilford Bromoil Paper; matrix developed in M.Q.

Second Award
Advanced Class

■ Whether Mr. Lyon has been assisted by good luck or unusually good posing we cannot say but he has succeeded in combining the attractive qualities of a candid camera shot with a sound, interesting, and rather original composition for such subject matter. It hardly seems possible that these groups could have arranged themselves so perfectly without direction from the photographer, but there are small items such as movement in the right leg of the girl in the white suit, and the entire absence of camera consciousness, that lead one to suspect that this shot might have been made without posing. The cloud form fits in very well, breaks up the sky area, and helps to tie the composition together. All except those addicted to extreme uncompromising realism will agree that it is an asset to the picture. Since the cloud is apparently printed in, the realists will object to it on the ground that it introduces an element of artificiality that is evident to the discerning eye. The out of focus foreground constitutes a minor defect, and the movement in the young lady's leg could be made less evident by sharpening the outlines with the retouching pencil.

Data: Kodak Ser. III; Bausch and Lomb lens; 1/50th sec. at F:5.6, on bright day in August at 4 P.M.; E.K. Verichrome, in D-76; Defender Velour Black F, in D-72.



"Group Study—Bathers"

Wm. T. Lyon



"Hilltop Sentinels"

Geo. H. Phillips

suggest trimming from the right until that spot is eliminated. The line of the hill then runs upward as it leaves the print and we feel that in spite of the fact that the print proportions become rather tall and narrow, that a slight improvement results.

Data: Graflex; 1/10th sec. at F:5.6, 4 P.M. in Dec., with 23A filter; DuPont S.S. Pan., in Pyro-Metol; Agfa Anso Brovira Velvet, in M.Q.

Third Award—Advanced Class

■ From this picture we may learn the value of studying and understanding the variations of outdoor lighting. Such study must be carried far enough so that the photographer is able to visualize a given scene under all of the lightings to which it will be subjected during the year. It is only when the ability to clearly visualize the scene under different lightings has been obtained, that the photographer can be sure that he is getting the most out of his subject matter. Just imagine how commonplace this picture would be if made with a flat frontal light, and then notice the dramatic and sensuous qualities that Mr. Phillips has brought to the picture by judicious selection of the most advantageous lighting conditions. There is a slight feeling that the picture could stand a bit more mass in the lower right to act as support for the masses in the upper part of the print. Probably nothing more is needed than that the line of the hill should slant upward rather than downward when leaving the print. This, in connection with the fact that the spot of foliage in the upper right corner tends to catch the eye, causes us to

**Fourth Award
Advanced Class**



"Sikh"

H. F. Kells

that the more the attention is concentrated the sharper the definition should be. For, under such conditions, the questing eye must be satisfied by the revelation of detail. With the degree of concentration that has been achieved here, we feel that a sharper rendering would not be amiss.

Data: 5x7" Agfa View; 12" Plastigmat; 1/5th sec. at F:8, on E.K. Portrait Pan., in D-72, by 2, 500W lamps diffused; bromide print, gold-toned.

**Fifth Award
Advanced Class**

■ It is rather surprising that humor is so rarely found in photographs. A partial explanation, we suppose, lies in the fact that humor depends largely for its effects upon the element of exaggeration, which is a difficult commodity for the photographer to handle. A clever gentleman with the energy to study the problems involved in humorous expression, might, if he were successful, find himself credited with a large bump of originality. Mr. Gerstad introduces a delightfully light touch of humor into this picture with his laconic title "Two Ladies". The picture is original in conception and is also interesting because of the fairly successful attempt to make the driving rain visually apparent in the print. We regret that details on this point are not given in the technical data, but in the absence of information we would guess that the effect was obtained by lightly penciling lines on the back of the positive before printing the paper negative from it.

Data: Leica; 50 mm. Hektar F:2.5; 1/30th sec. at F:3.5, at 4 P.M. on a rainy day in December; E.K. Background Film, in D-76; paper negative and final print on Defender Velour Black F, in D-64, ¼ strength. Not a composite.



"Two Ladies"

Merritt Gerstad



"The Barker"

Harry E. Goodwin

Amateur Medal Print

■ It seems clear that Mr. Goodwin was fully alive to the problems involved in making this picture, and that he has solved them in a fine workmanlike fashion. The chief difficulty lies in avoiding a conflict of interest between the figure and the wealth of fantastic material which surrounds it. If the face had been strongly shown the picture would then contain the elements of a portrait, the eye would be attracted to the face, and the surrounding material would unquestionably constitute an annoying distraction. By turning the face away, and catching the figure in semi-silhouette, this conflict is avoided, and it is possible to use the surrounding material as atmosphere without weakening the picture. By this means a much fuller, more complete, and interesting story can be told, without violating the basic principle of one idea to the picture. It seems to us that the balance between figure and surroundings in this picture, has been established with a certainty and deftness of touch that is rare indeed, in spite of the fact that the subject matter presented more than ordinary difficulties in that respect.

Data: 4x5" Series D Graflex; Schneider F:3.5 lens; 1/50th sec., at F:8, on bright May day, on Defender Pan., with K-2 filter, in D-76; Gevaert K-33, in D-72.

Second Award

Amateur Class



"Eh"

Leon C. Smith

trimmed about $\frac{1}{2}$ " on the 8x10" print from the right; added enough at the top so the hat brim would carry around without interruption and added about an inch to an inch and a half to the left. This would be better, we believe, if it did not rob the print of its present high degree of concentration by introducing obnoxious areas in the upper and lower left corners.

Data: Leica Model F; 135 mm. Elmar Telephoto; 1/60th sec. at F:12.5, 11:00 A.M., clear day in June; DuPont Superior, in P-Diamine, Glycin; -2x yellow filter; Defender Veltura DL in D-72.

Third Award

Amateur Class

■ As on previous occasions Mr. De La Vergne displays his skill in handling lights and model to good advantage, and he is fortunate in having a particularly lovely model with which to work. To a great extent the success of pictures such as this depend upon bringing out, and emphasizing graceful lines and contours in the figure. In this case we feel that it is possible to present the lines of the arms in a more graceful aspect. In this pose it seems that the line from shoulder to elbow to hands is rather too angular when considered in relation to the rest of the figure. If the hands had been moved only a little upward and outward the line to which we refer, would become less angular and more of a sweeping curve, to the advantage of the picture as a whole.

Data: 5x7" View; 12" Velostigmat; 2—1000W Mazda lamps; E.K. Portrait Pan.; E.K. Opal H, in Amidol.



"Study"

A. B. La Vergne

CAMERA CRAFT

Fourth Award
Amateur Class

■ In "One Man's Endeavor" we find a picturesque subject made doubly interesting by the pathetic appearance of the toiling figure and by the nature of his exertions. The figure is well placed and the cast shadows serve to break up what might otherwise have been monotonous areas, and also lead the eye to the center of interest, thus establishing a good measure of concentration. We know that Mr. Rex is always careful about his compositions and are therefore puzzled as to why he has included the horizontal lines at the top. To our eye these serve no useful purpose in the composition and merely draw the eye to the top of the print unnecessarily. Possibly he was intrigued by the nice way in which the shadow lines ran to the corners of the print with this trimming, but we cannot see that this is nearly important enough to offset the disadvantage already mentioned. We like the picture better with about two-thirds of the distance from the top of the print to the top of the pile of wood trimmed away. You will notice that this trimming also establishes more pleasing print proportions.

Data: 1-5/8x2 1/4" Baldax; F:2.9 Meyer Trioplan; 1/50th sec. at F:8, at 1:30 P.M., on bright September day; Agfa Ansco S.S. Pan., in Buffered Borax; E.K. Vitava E3 in M.Q.



"One Man's Endeavor"
Ralph Rex



"In Conference"
James A. Kelly

the negative will not stand any further enlargement, and if we trim with resulting increase of concentration on the figures, this fact will become noticeable. This is a rather round-about way of saying that we do not feel that the print calls for any drastic trimming and holds together well as it stands. We would however take about an inch on the 11x14" print off of the right, in order to eliminate the umbrella shaped object at the right that contributes nothing but a useless spot to the picture. In the interest of simplification we might do the same at the left without running into any of the difficulties mentioned above.

Data: Leica D; 1/60th at F:3.5; interior by daylight at 11:00 A.M. in October; E.K. S.S. Pan., in D-76; Defender Veltura P in D-64 A.

Fifth Award
Amateur Class

■ Mr. Kelly has made effective use of the interesting splash of sunshine in this picture, and by standing back and thus keeping his figures small is able to convey the suggestion of a large building without including too much territory within the picture space. Of course we can find interesting and more simplified pictures within this picture, but there are two objections to doing so. First, any drastic trimming will result in our losing the sense of great size in the building that seems to be the central idea, and second because the definition of

AMATEUR COMPETITORS

- Joseph B. Airoidi, New York, N. Y.
 V. Aiyar, Calcutta, India.
 G. D. Aydlett, Norfolk, Va.
 Albert A. Bailley, Schenectady, N. Y.
 William Edwin Booth, Richmond, Va.
 Faust H. Boyd, Ashton, Ill.
 Andre Brodu, Oakland, Calif.
 C. A. Brown, Baton Rouge, La.
 Roy L. Bulger, Baltimore, Md.
 Roland Calder, Berkeley, Calif.
 Jack Cantrell, Chicago, Ill.
 Edwin B. Carr, Toledo, Ohio.
 Thomas B. Casey, Providence, R. I.
 K. H. Choy, Bakersfield, Calif.
 S. A. Ciechanow, San Francisco, Calif.
 Paul Clifton, Baltimore, Md.
 Raymond B. Collder, San Francisco, Calif.
 Norman R. Coulter, San Francisco, Calif.
 M. V. Cousins, Bethany, La.
 Leonard Davis, Hamilton, Canada.
 R. L. Davis, Pittsburgh, Pa.
 *A. B. De La Vergne, Denver, Colo.
 Robert C. Demaree, Grand Canyon, Ariz.
 Frank Dutot, San Francisco, Calif.
 Gordon Edwards, San Francisco, Calif.
 T. E. Euler, San Francisco, Calif.
 James R. Evans, Ocean Beach, Calif.
 A. H. Fomad, Hamilton, Canada.
 George H. Forster, Jr., Long Beach, Calif.
 Mortimer Friedman, New York, N. Y.
 Clair N. Fuller, Los Angeles, Calif.
 Nat Gaer, Brooklyn, N. Y.
 Joseph H. Gayman, Los Angeles, Calif.
 Ernest L. Gooden, Washington, D. C.
 *Harry E. Goodwin, Washington, D. C.
 Charles Gratz, Pasadena, Calif.
 R. P. Haotis, Washington, D. C.
 William M. Harty, Chicago, Ill.
 Ernest F. Henry, Washington, D. C.
 Gordon A. Hicks, Charlemonite, Mass.
 H. G. Hogue, Ellensburg, Wash.
 J. W. Hubbard, Shafter Calif.
 R. E. Huish, Ogden, Utah.
 J. Albert Hultquist, Washington, D. C.
 Delbert E. Jack, Berkeley, Calif.
 Charles W. Kays, Los Angeles, Calif.
 *James A. Kelly, Ottawa, Canada.
 Ralph Kerslake, Toronto, Canada.
 Howard Kurz, Los Angeles, Calif.
 Virgil S. Land, Chicago, Ill.
 Samuel V. Lebowitz, Baltimore, Md.
 A. H. Lomax, Hamilton, Canada
 Alfred B. Loop, Bellingham, Wash.
 P. T. Loope, Schenectady, N. Y.
 Louis Luh, Washington, D. C.
 Miles J. Martin, Milwaukee, Wis.
 J. W. McManigal, Horton, Kansas.
 M. Melville, San Francisco, Calif.
 Hubert W. Meyer, Schenectady, N. Y.
 M. Moskowitz, Bronx, New York.
 Omar J. Murphy, St. Joseph, Mo.
 Paul Nelson, San Francisco, Calif.
 Don Kirby Oliver, San Francisco, Calif.
 R. W. Olson, Schenectady, N. Y.
 Robert J. Parker, Buffalo, N. Y.
 Frank X. Reilly, Pottsville, Pa.
 *Ralph Rex, St. Louis, Mo.
 F. L. Rogers, San Francisco, Calif.
 J. J. Ruiz, Wyandotte, Mich.
 Wray Selden, Richmond, Va.
 Geo. Semonsen, San Francisco, Calif.
 Lawrence Schreiber, Cleveland, Ohio.
 Fred Shepard, Los Angeles, Calif.
 John W. Shleppey, Tulsa, Okla.
 J. P. Skillen, Hamilton, Canada.
 Warner Smigelow, San Francisco, Calif.
 *Leon C. Smith, Washington, D. C.
 Alan Sweet, San Francisco, Calif.
 Louise Montague Stinde, St. Louis, Mo.
 H. M. Takahashi, Berkeley, Calif.
 Henry Tanaka, San Francisco, Calif.
 Clayton H. Tanner, Urbana, Ill.
 Thomas M. Thomson, Hamilton, Canada.
 George O. Timanus, Philadelphia, Pa.
 Stuart S. Towne, Los Angeles, Calif.
 R. L. Treweek, Wichita, Kansas.
 J. Oliver Tucker, Burlingame, Calif.
 Lloyd E. Varden, Evansville, Ind.
 S. R. Vincett, Los Angeles, Calif.
 Ray Von Rosenberg, Los Angeles, Calif.
 H. E. West, Washington, D. C.
 Earl A. White, Manteca, Calif.
 Morgan W. Wickersham, Washington, D. C.
 Helen E. Wilcox, Clay Center, Neb.
 Charles Willey, East Patchogue, N. Y.
 Victor Williams, Price, Utah.
 Louis N. Willman, Washington, D. C.
 Wm. E. Wing, San Francisco, Calif.
 G. T. Yang, Peiping, China.
 Augusta Zachary, San Francisco, Calif.
 Lester F. Zeigler, Los Angeles, Calif.

*Denotes prize winners.

Correspondence

Competition Comment

Dear Mr. Young:

I don't know who wrote the criticism of Mr. H. F. Kells' picture "Clytie" in the January issue, but he entirely missed the real significance of the judges' objection to the central position of the figure. There is no objection to a figure being central if properly balanced with the subject matter. In this case I do not feel that it is.

The left side holds interest as the gloomy place "Clytie" has come from

with its strong bands of light and shade. The other side has also strong interest. The two sides struggle with each other for attention.

I believe if the camera had been placed slightly more forward, and a little to the left, the figure would have been swung to the right a trifle more without being thrust further into the light, and the white line of the pillar would not have been right on top of her head. Then you would have had the feeling of standing in the

gloom and reaching for the light yourself.

When a worker of Mr. Kells' ability attempts such an ambitious subject as this you rather expect him to do it right.

Sincerely yours,
G. H. S. HARDING.

Mr. Harding was a member of the jury which judged the January competition. The print discussions are always written by the editor.—Ed.

Dear Sir:

Your **Camera Craft** is very hard to obtain. I had to visit four camera stores before I was able to get one, the others were sold out. I wish it came weekly as it is very entertaining.

Mr. Stanley R. Jordan's print "Jean" seems to me to be considerably underexposed. In your criticism you state that it impresses you as "a straightforward, honest piece of portraiture, but lacking in pictorial values".

To me, the print has more pictorial value than technical value, the posing of the head with the beautiful curve of the collar, making it very effective. However, I believe it would have been much better if the exposure was increased as I have an idea that the young lady was not near so dark. I believe a blonde should be portrayed as a blonde. The face and hair are entirely too dark. Then the print could stand trimming at the top and considerable trimming from the left side of print to throw the head high in the left corner makes a great improvement.

I would like to see this print remade in the style of Jan De Meyere.

Yours very truly
C. F. STODY,
Boston, Mass.

About Titles

Dear Sir:

I quote an excerpt from a communication by William R. Bland in last month's **CAMERA CRAFT**:

"Mr. Mortensen's practice in several instances of giving a definite name of a person to a characterization does not ring true. It could not be. For instance 'Cesare Borgia.' Would

a portrait of a man in the street made today and labeled Abraham Lincoln, ring true? No, it would not and it would not matter what the artistic medium was or whether the man was tall and gaunt and resembled Lincoln."

Imaginary episodes in the life of Mr. Bland:

(1) Mr. Bland in the Sistine Chapel. "It does not ring true. It could not be. How could this Michelangelo know how Adam looked?"

(2) Mr. Bland at the Opera. "It does not ring true. Wagner never saw Siegfried. Besides I happen to know the tenor and his name is Winkelstein."

(3) Mr. Bland at the movies. "It could not be. There was no cinema in the time of Henry VIII. This fellow Laughton by giving a definite name to his characterization does not ring true."

(4) Mr. Bland at the Metropolitan Museum. "How could Regnault, a nineteenth century artist, paint Salome, who was a contemporary of John the Baptist? It could not be."

(5) Mr. Bland at the theatre. "Mr Shakespeare's practice of giving a definite name of a person to a characterization does not ring true. It could not be. For instance 'Julius Caesar!'"

These episodes seem to place me in exalted company. For this favour I am indebted to Mr. Bland.

Very truly yours,
WILLIAM MORTENSEN.

Short-Cut

Gentlemen:

During some recent experimenting with the Weston Universal Meter, the writer has worked out for himself a system whereby it is now unnecessary to shift from one film speed to another when one is taking both still and movie pictures, or when one is using more than one camera with different film speeds.

For example: A person using a Miniature Camera with Super Pan film will probably use the meter set at 24 for daylight. If using also Super Pan 16 Mm. movie film, it will, however, be necessary to set the meter at 16. Taking some arbi-

trary readings, such as 100 with the meter set at 16, we find the exposure is F8 for a movie camera having a shutter speed of approximately 1/30th of a second. Now, changing the meter back to 24 for 35 Mm. Super Pan and using the same arbitrary figure of 100, we find F8 now falls opposite 1/50th of a second. Thus, by using the meter set at 24 for the still camera we can read direct on all stops and speeds and at the same time find our opening for the movie camera opposite 1/50th of a second.

The same method can be worked out for the regular Panchromatic 16 M/M film which rates at 10. We find that the factor now becomes 1/80th; thus with the factor

set for 24 for the still camera, all we have to do is look opposite 1/80th of a second and find our opening for the movie.

Under artificial light there is a slight variance of figures due to the Weston rating. The factors now become 1/50th for regular Panchromatic and 1/40th for Super Pan.

This simple solution may have been mentioned before and may not be of any particular importance. If it has not, however, I am sure many Weston Meter users will find this little "tip" of value and quite a time-saver.

Yours respectfully,
ALMER COE & CO.,
R. Sacks.

Photographic Digest

Dr. H. D'Arcy Power, F. R. P. S.

Printing by Artificial Light

At this season with storms of wind and rain there is little to attract the amateur afiel and the dark-room becomes his Happy-home, we thus find our contemporaries concentrating on questions of technique and many good things come to the fore. Thus the Brit. Journ. Phot. recently had a very useful article on printing by artificial light that drew attention to points that are too often neglected or slurred over. I quote:—"Systematic working is the basis of success in all printing by artificial light, whether the pictures are produced in the printing frame by contact or by projection through the enlarging lantern. "Uniformity of illumination is the first essential." "Accuracy in exposure is an absolute necessity for obtaining the finest results with certainty. Unless the lighting conditions are uniform and constant this accuracy cannot be maintained. For some types of work a box or printing machine may be used satisfactorily, but for all photomechanical photography, and even for portraits and figure studies in many cases, the older method of printing in the frame is the only one to adopt." The writer then goes on to point out that

exposures should be at least ten seconds and preferably more, a contention with which I very heartily agree. That in the relation of the light to the printing frame the former should not be adjustable but fixed above the latter at distances depending on the class of paper, for bromide from 40 to 60, for chlorobromide from 20 to 30, and for gas-light papers from 10 to 12 inches. A simple way of providing for this is given in the method of an expert technical photographer as follows: "The electric lamp with an opal shade was held by a bracket near the top of a wooden partition. At the desired distances three shelves for holding the printing frames were fixed to the partition. The lowest for bromide printing was rigid; the others, for chloro-bromide and gaslight respectively, are hinged so that when required either one could be easily placed in the required position and when not required folded back against the partition so as to leave the space between the light and the lower shelf free from obstruction." I would certainly copy this arrangement if it were not that the first vertical enlarger that I invented and described in **Camera Craft** and the Brit. Journ. Phot.

by reason of its fixed illuminant and movable shelf allows of exactly the same thing. Furthermore as the provision for copying in that apparatus consists of four lights placed quadrilaterally and each controlled by a push button a very effective differentiation in the light falling on the surface of the frame can be used to rectify harsh changes in the picture densities.

Cold Dark-Rooms and Developer of Standard Temperature

For many workers the above is an insoluble problem, the greater the difference between the existing and the required temperature the greater the difficulty of maintaining the latter. Recently I read a letter from a correspondent to a contemporary (I greatly regret that the names of both have for the moment escaped me) stating that by means of a suspended electric red-light bulb placed beneath the dish a point could be found where the temperature would remain fixed. The idea appealed to me and I set to work to supply the working data that the communication lacked; these I now give as they apply to my wants for small sizes of prints and papers up to 10x12 inches. The problem as I see it is to enclose a standard red-light in a closed space whose upper surface shall give off the amount of heat necessary to warm and then to keep the developer at one determined temperature. An electric bulb will give out a certain amount of heat per hour, the larger the container the less the loss over a given surface and by modifying the size of the container a point may be found where the heat lost and that produced exactly balance one another and the temperature at a given surface remains equal; also by making the container larger or smaller this surface loss may be just that required to maintain a given temperature of the developer. I have little doubt but that if I turned over the problem to a physicist he would supply me with a nice little formula, that would not work because I had left something out, so I stick to experiment and give the results.

I lined a flat wooden egg box with asbestos on all sides but the top which was closed by a sheet of glass, before

doing so, the electric bulb was loosely placed in the center. The dimensions of the box are 10x10x4, roughly a capacity of 350 cubic inches. A 10x8 glass developing dish, partly filled with water at 5°C., rose to 30°C. in half an hour and so stayed for an hour; it was then replaced by a litre glass jar filled with cold water which also after a while attained the same temperature and was found exactly the same after standing over the bulb all night. There was at my disposal over a quart of nicely warmed water but the temperature of 30 centigrade (75 Fahrenheit) is a little high for developing, but was readily brought down to 20°C. (66°F) by interposing a sheet of the protective cardboard accompanying photographic papers. The problem was solved, I could keep a supply of water to make up or dilute my developer and maintain it indefinitely at the same temperature during its use. The dark-room may be cold but it means nothing to the photographer who can keep his developer at even temperature.

But there is another advantage to be gotten out of this warm box; its upper surface is glass and the contained light deep red, if the developing tray is transparent glass and plates or films are developed in it the growth and depth of the image can be watched without removing them from the bath. A continuous exposure to the red light is not advisable, I therefore advise the placing of a piece of opaque substance such as cardboard or slate under the dish from which the latter may be pushed off when it is desirable to see how things are going. Under any circumstances direct rays from a lamp are a danger. I have the glass top covered with a sheet of tissue paper to act as a diffuser.

Finishing Bromides

Most bromide prints, especially enlargements, require spotting. Dark spots can be removed by patient and delicate use of a lancet, as used for negatives. It is better to avoid these dark spots by retouching the negative, so that a light spot or patch remains to be dealt with on the print.

" " "

Ordinary lead pencils are unsuitable for

spotting, etc., in most cases. Water color is preferable. Any tone can be matched with care, and on matt prints the work should be beyond detection. For semi-glossy and glossy prints the color should be worked up on a palette with water in which gum arabic has been dissolved, the amount of gum varying according to the degree of gloss required to match the surface.

" " "

Powdered chalks known as "sauces" can be obtained in various colors. When mixing two "sauces" it can conveniently be done with a fairly stiff hog-hair brush. With some papers it is advisable to prepare the surface for taking crayon and stumping chalk. This can be done by sprinkling over the print a little finely-sifted pumice powder, and rubbing it over the surface with the palm of the hand. Any surplus powder must be dusted off with a brush.

" " "

Crayon, pencil and chalk work can be fixed by spraying siccative with an atomizer over the whole surface of the print. Another method is to move the gelatine side of the paper backwards and forwards through the steam from the spout of a kettle. Care must be taken that the gelatine does not soften sufficiently to run.

" " "

The "juicy" appearance of a print when

wet more or less disappears on drying. To restore this appearance the print may be rubbed over with various preparations by means of a pad of flannel. Such preparations are obtainable commercially. A home-made one can be prepared by melting paraffin wax with a hot iron and allowing it to run into gasoline until a creamy mixture is obtained. This must, of course, be done at a distance from naked flame.

" " "

A good "dope" for prints, especially those on matt paper consists of:

Mastic varnish . . .	1 part
Linseed oil . . .	1 part
Turpentine . . .	2 parts

Artists' quality materials should be used. Variations of the formula include copal varnish and poppy oil. The amount of turpentine in proportion to varnish decides the degree of "shine" on the surface. No glossiness will be found on the surface if sufficient turpentine is used.

" " "

A variation of the above has been suggested. This is to add megilp to carbon tetrachloride. This mixture may be rubbed well into the print, which is then in good condition for receiving oil pigment. This may be thinned down with a little of the mixture, and applied with plugs of cotton-wool. Carbon tetrachloride has the advantage over gasoline of being non-inflammable.

Club Notes

Camera Craft Traveling Salons

Since publishing the list of clubs which have requested the Camera Craft Traveling Salons in our January issue, four new clubs have asked to be included. They are, The Photo Club of the Univ. of Wisc. Ext. Div., Milwaukee, Wisc., the St. Joseph Camera Club, St. Joseph, Mo., the Missouri Photographic Society, St. Louis, Mo., (these will be included in Division 2) and the Toronto Camera Club, Toronto, Canada, which will be included in Division 6. If there are other clubs which wish to receive the exhibi-

tions they need only send in their request. All clubs in the listing will eventually receive all of the exhibitions—these will reach them at the rate of about two shows per year.

In our January issue we explained the system under which the Salons will circulate. We have now decided to add one item to this system in order to insure that the shows will meet the desires, and fit into the activities of the clubs as fully as possible. As was explained, new exhibitions become available, under this system in March, July, and November of

each year. Schedules for these shows will be published in our February, June, and October issues, which appear about a month in advance of the beginning of each schedule. Schedules will be made up well in advance however, and a month before the publication of each schedule postcards will be sent to each club in the schedule, giving the dates tentatively allotted to them. Thus if any adjustment of the schedule is necessary this can be taken care of in advance of publication, and all conflicts ironed out before the show starts on its rounds. This also eliminates the danger of some Print Directors failing to see the schedule when published, and insures that all will know just when to expect a set of prints.

Below we give the schedule for Group IV. Group V will start in Division 3 in July, 1935, Group VI, in November, in Division 4, etc.

Schedule Group IV

Los Angeles Camera Club, Los Angeles, Calif., Mar. 1-15.

Camera Club of Long Beach, Long Beach, Calif., Mar. 18-20.

Division 2

St. Paul Camera Club, St. Paul, Minn., Mar. 27-Apr. 10.

Camera Kraft Club, St. Cloud, Minn., Apr. 14-21.

Photo Club of University of Wisconsin, Milwaukee, Wis., Apr. 25-May 8.

Lincoln Camera Club, Lincoln, Neb., May 13-27.

Fort Dearborn Camera Club, Chicago, Ill., June 1-28.

Bessemer Park Camera Club, Chicago, Ill., July 1-10.

St. Joseph Camera Club, St. Joseph, Mo., July 13-26.

The Lens Club, Boulder, Colo., Aug. 1-7.

Omaha Camera Club, Omaha, Neb., Aug. 12-22.

Camera Pictorialists of Kansas City, Kansas City, Mo., Aug. 26-Sept. 4.

Missouri Photographic Society, St. Louis, Mo., Sept. 9-19.

Oklahoma Camera Club, Oklahoma City, Okla., Sept. 23-Oct. 2.

El Paso Camera Club, El Paso, Texas, Oct. 7-18.

Austin Camera Club, Austin, Texas, Oct. 22-28.

Miniature Camera Club of Louisiana, New Orleans, La., Nov. 1-8.

Division 5

Jamestown Camera Club, Jamestown, N.Y., Nov. 13-20.

Kodak Camera Club, Rochester, N. Y., Nov. 23-Dec. 5.

Raytar Camera Club, Rochester, N. Y., Dec. 7-17.

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Camera Club of Syracuse, Y.M.C.A., Syracuse, N.Y., Dec. 20-Jan. 3.

Utica Camera Club, Utica, N. Y., Jan. 7-17.

Schenectady Photographic Society, Schenectady, N.Y., Jan. 22-31.

Brooklyn Institute of Arts & Sciences, Department of Photography, Brooklyn, N.Y., Feb. 3-16.

Telephone Camera Club of Manhattan, New York, N.Y., Feb. 19-27.

Camera Club of the Brooklyn Edison Club, Brooklyn, N.Y., Mar. 3-6

Camera Club of the Brooklyn Union Gas Club, Brooklyn, N.Y., Mar. 9-16.

Newark Camera Club, Inc., Newark, N. J., Mar. 19-April 1.

Orange Camera Club, East Orange, N. J., April 4-19.

Passaic Camera Club, Passaic, N. J., April 22-May 3.

New Activity of the

Photographic Society of America

An Invitational Salon Committee has just been appointed for the Photographic Society of America by President Thorek. The committee is formed for the purpose of assembling an Invitational Exhibit of Photography, made up entirely of the work of exhibitors residing outside of the United States. Beyond the shadow of a doubt this show will be one of the finest collections of photography ever assembled. The intention of the Society, of course, is to make this exhibition available to member clubs, etc., as fully as possible, but the exact system for accomplishing this end has not as yet been decided upon. Mr. Fred P. Peel, is serving as Chairman of the committee, and Mr. Louis F. Bucher as Secretary. The fol-

lowing have been appointed as supporting members: Sigismund Blumann, Frank V. Chambers, C. J. Cray, Alfred A. Delardi, Louis Fleckenstein, Frank R. Fraprie, Sophie L. Lauffer, Alexander Leventon, and George Allen Young.

By this action we feel that the Photographic Society of America has taken a long step in the right direction. By demonstrating in positive and conclusive fashion the value, the usefulness, and the variety of the services which it, and it alone, can render, the Society will command the respect and support of the photographic public. Nothing but a large, inclusive, and fully representative organization can achieve the prestige that makes possible the assembling of a truly representative foreign exhibition of the highest quality. An invitation to contribute to even a well established Salon means little to a top-notch exhibitor; there are lots of Salons. But an invitation from the Photographic Society of America means something, and is bound to elicit almost universal response. By assembling what is bound to be a superlative exhibition, and particularly by moving it about the country and not confining it to one city as is the case with Salons, the Society is giving a concrete demonstration of its usefulness. There are many other equally valuable services which it can perform, but if these are to become a reality the Society must have the wholehearted support of the photographic public. Record your approval of this progressive step by writing to the Society, and better yet by sending \$5.00 for your annual membership fee to B. H. Chatto, Secretary, 1300 Milton Ave., Pittsburgh, Pa.

Invitational Exhibit of American Pictorial Photography

In the Fall of last year the Royal Photographic Society appointed Joseph M. Bing, F. R. P. S. as Delegate of the President and Council, of the Society to assemble an Invitational Exhibition of American Pictorial Photography, for showing at the Royal Photographic Society in London, during December 1934. Serving with Mr. Bing as an Honorary Committee were: Pirie MacDonald, Hon.

F.R.P.S., Dr. Maximilian Toch, F.R.P.S., Frank V. Chambers, F.R.P.S., Frank R. Fraprie, F.R.P.S., Wm. A. Alcock, F.R.P.S., Sigismund Blumann, F.R.P.S., and George Henry High, F.R.P.S. Terms of the invitation were as follows: Individual invitations to residents of the United States to enter one single print each, and limited to about one hundred and fifty entries. The invited contributor to be the sole judge of his entry. The prints to be exhibited without being subject to selection or contest. Contributors were as follows:

Smithsonian Institution	1
American Monthly Magazines, (1 each) ..	4
American Photographic Clubs	16
Individual American Photographers.....	134

Total155

The Exhibition is now returning to the United States for showing in this country. It has been honored, and has performed a major service to Photography by eliciting the first invitation ever received by a photographic show to hang in the National Academy of Design, opening April 14, 1935. It will subsequently be shown in the Smithsonian Institution, and then in Museums and Art Centers about the country. Watch for it.

Camera Craft Traveling Salons

The Camera Craft Traveling Salons are currently on exhibition at the following clubs:

Group I

Erie Camera Club, Erie, Pa., Jan. 24th-Feb. 2nd. Aluminum Camera Club, New Kensington, Pa., Feb. 5th-15th. Photographic Section, Academy of Science & Art, Pittsburgh, Pa., Feb. 17th-20th.

Westinghouse Camera Club, Wilkesburg, Pa., Feb. 22nd-Mar. 2nd.

Lancaster Camera Club, Lancaster, Pa., March 5th-10th.

Group II

Bessemer Park Camera Club, Chicago, Ill., Jan. 22nd-Feb. 1st.

Camera Kraft Club, St. Cloud, Minn., Feb. 4th-14th.

St. Paul Camera Club, St. Paul, Minn., Feb. 17th-27th.

Omaha Camera Club, Omaha, Nebr., March 3rd-13th.

Group III

Kodak Camera Club, Rochester, N. Y., Jan. 28th-Feb. 7th.

Syracuse Camera Club, Syracuse, N. Y., Feb. 10th-20th.

Camera Club of Brooklyn Union Gas Club, Brooklyn, N.Y., Feb. 23rd- March 4.

Telephone Camera Club of Manhattan, New York, N. Y., March 8th-18th.

Canadian Photographers Attention

A movement is being started to establish a system for the circulation of groups of prints, or exhibitions among interested parties and organizations in Canada. It is tentatively proposed that a circuit be set up so that prints would move eastward from their point of origin to Halifax, they would then be shipped to either Vancouver or Victoria, B.C., and again

move eastward until returned to their starting point. All individuals or organizations who are interested in this proposal are requested to communicate immediately with Mr. T. H. Hawkins, Secretary, The Camera Club of Ottawa, Trafalgar House, Cartier St., Ottawa, Ont., Canada.

Beginners Course

The California Camera Club announces a course in Photography for Beginners. The first session will be held at the club-rooms, 45 Polk St., on the evening of Thursday February 7th at 7:30.

The course will consist of six lessons and two field trips and will be free to new members of the club. Non-members will be charged a nominal fee.

Mr. Roland Calder will be in charge of the class.

Notes and Comments

New Defender Film

The Defender Photo Supply Co., Inc., Rochester, N. Y., has recently announced a new film known as Defender X-F Panchromatic Special - Non - Halation, Back-Coated. This is the same emulsion as the X-F Panchromatic Special (which has proved so popular) plus a neutral gray tinted gelatin back coating. The backcoating absorbs rays of all colors, and thus has a maximum of efficiency in preventing halation, which is caused by the reflection of light back to the emulsion from the film base. In addition the back-coating washes off in development, so that it offers no hindrance to the printing qualities of the finished negative. Some remarkable results obtained with this film are shown in the November-December issue of the Defender Trade Bulletin. For full information write to the above address. It is well to understand that this

new film does not replace the X-F Pan Special but is an addition to the Defender products.

Master-Bilt Enlarger

The new Master-Bilt Enlarger recently placed upon the market is designed to produce maximum enlarging efficiency at a minimum cost. To this end it is constructed so that your camera is readily adaptable to the enlarger, thus eliminating lens cost, always a major item of expense. See this enlarger at your dealers or send a three cent stamp to Harold Francke, 2308 So. Howell Ave., Milwaukee, Wisc., for a fully illustrated circular.

Photo-Lab Softener

Amateurs, even those with considerable photographic skill are constantly turning out negatives that are too contrasty to be printed properly on even a soft grade of paper, and also there are occasions when a print needs to be made immedi-

ately and no soft grades of paper are on hand. The Photo-Lab Softener is designed to meet these difficulties. It softens the contrast of a bromide paper to a remarkable degree, making the impossibly contrasty negative printable on the softened paper. Get a bottle at your dealers, or write to Photo-Lab Products Co., 2522 Warren St., Cheyenne, Wyo.

Clearance Sale

The Detroit Camera Shop, 325 State St., Detroit, Mich., is holding a clearance sale during February in which many outstanding bargains are offered. Write today to the above address for their list of exceptional bargains.

Photo Ceramics

It seems inevitable that when one wants some work done that is a bit out of the ordinary that great difficulty is encountered in finding a firm that can do a good job. Photo Ceramic work (photographs burned into porcelain) possibly falls in this category. We suggest therefore that you file this information away even if you don't need it at the moment. For fine Photo Ceramic work of any size from that to be used on monuments down to the smallest vase or other object, see, Studio Veronica, 715 E. 104th Place, Chicago, Ill.

Illustrated Catalogue No. 5 will be sent free on request.

Weston Exposure Meter

A thought for photographers. Whether it be amateur or professional photography, the salon jury and the buyer of photography alike are constantly demanding higher and higher standards of technical excellence. The day is past when a technically poor picture can get by because of other merits. The degree of technical perfection is virtually determined for every picture at the click of the shutter, regardless of the subsequent skill employed in its processing. It cannot be denied that a good exposure meter is today an absolute necessity. Examine the Weston meter at your dealers, or write to the Weston Electrical Instrument Corp., 617 Frelinghuysen Ave., Newark, N. J., for a descriptive pamphlet.

Color Photography With the Rolleiflex

We have just received from Mr. Burleigh Brooks, 127 West 42nd St., New York, N.Y., a most interesting pamphlet giving details of procedure and much sound advice on color photography with the Rolleiflex, using the new Agfacolor Ultra-Film. This marvelous new film is six times faster than the older film, requiring only four times the exposure that would be given a black and white film with a speed rating of 18° Scheiner. This means that instantaneous exposures can be given for a great variety of subjects. Further the color balance of the new film is so much improved that no filter need be used for outdoor shots under normal conditions. Processing is very simple, only two baths being required—the developer and the reversing bath. Re-development is carried out in the original developer. We have had the pleasure of seeing some results obtained with this film and do not hesitate to say that the quality was beautiful indeed. Mr. Brooks, American Agent for the Rolleiflex, is especially anxious that Rolleiflex users should appreciate the tremendous advantages of this new film, for the Rolleiflex is an ideal camera for this work. In case some readers are not familiar with the nature of this film we should mention that the end result is a color transparency on film. A color print on paper is not possible by this process. Write to the above address for your copy of the pamphlet today.

Universal Photo-Optical Bench

It is next to impossible for us to convey any adequate idea of the many advantages and conveniences which have been built into this well constructed piece of equipment in the small space at our command. It includes the stage lights and camera support with full tilting and panorama facilities and each of the items mentioned are completely and precisely adjustable, for any need. Close-up shots, and low-power photomicrography can be made on this equipment with the accuracy of adjustment that is necessary if good results are to be obtained. It is especially suitable for use with miniature

cameras of the Contax or Leica type, either with or without a microscope. Willoughby's, 110 W. 32nd St., New York, N.Y., will supply a pamphlet giving a full illustrated description, on request.

Eastman Announces the Kodak Retina

In announcing the new, Continental-type Kodak Retina, the Eastman Kodak Company brings joy to the hearts of thousands of advanced amateurs who have wanted a fine, precision miniature camera but could not afford the most expensive cameras.

The Kodak Retina is economical to operate, extremely efficient and versatile and the acme of simplicity in operation.

This tiny newcomer in the miniature field takes thirty-six pictures on a roll of film supplied in a daylight-loading magazine. Two emulsions are available: Kodak "SS" Panchromatic Film (No. SS135) and Kodak Panatomic Film (No. F135), retailing at 85 cents each. The actual picture size is 24x36 mm.

Loaded as easily as a Brownie, Kodak Retina carries all of its controls within easy finger-tip range. Two large knurled knobs facilitate the winding and rewinding of the film. The film is always locked in position. At a turn of the conveniently located film-release knob only enough film for the next exposure can be wound forward, when it again automatically locks. This eliminates any chance of overlapping, resulting in wasted film. Once set at the first exposure, the succeeding exposures, up to 36, are automatically shown on a dial. In a split second the picture taker is ready for the next exposure. This speed in operation is invaluable when and if it is necessary to take a series of pictures of moving subjects.

The film is numbered from 1 to 36 and when developed the number of each picture appears on the margin of the Kodak Panatomic or "SS" Panchromatic Film loaded in the new Kodak film magazine. This new feature enables the user to order prints and enlargements from his film strip by number.



Kodak Retina

With eight speeds, including 1/300 second, time and bulb action, the well-known Compur shutter is capable of handling most any subject. No new photographic habits have to be formed, for the operation of the shutter is simplicity itself.

The shutter versatility is matched by the speed of the f.3.5 anastigmat lens which contributes sparkling sharpness to Retina negatives.

While on the subject of lenses, here is a feature of the Kodak Retina deserving consideration: When the Retina is closed it affords complete protection to the lens, a valuable safety factor.

Two Kodak Portrait Attachments and three color filters are available. The "A" portrait attachment, with distance set at "infinity", reduces the focal distance to 41 inches; "B" reduces it to 25 inches. When the camera is focused at 3½ feet these distances are reduced to 21 inches and 16 inches, respectively.

The three color filters are: light yellow (N-1), medium yellow (N-2), and green (N-3), with filter factors under daylight of 1.6, 1.9 and 2.2 respectively.

Filters and portrait attachments screw into the lens mount and are so compact that the camera can be shut with either—but not both—in position. Filter and portrait attachment may be used together when the camera is open.

The retail price of the Kodak Retina is \$52.50. See it at your dealers.

Classified Advertisements

OUTFITS FOR SALE

◆Korona Home Portrait Camera, $6\frac{1}{2} \times 8\frac{1}{2}$, \$25.00. Reducing back to 5×7 , \$6.00. Gundlach Series B Portrait Lens $f:4$, \$50.00. Radar Anastigmat Lens $f:4.5$, \$40.00. New in 1931, used six months. Mrs. Geo. F. McClure, S. 905 Monroe St., Spokane, Wash.

◆ $3\frac{1}{4} \times 4\frac{1}{4}$ Speed Graphic, Graflex back, B&L Tessar $f:4.5$, $6-13/32"$, excellent condition, \$42.50. $3\frac{1}{4} \times 4\frac{1}{4}"$ cut film magazine and holder, \$8.75 & \$1.50. H. T., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Series C Graflex, case, film pack adapter, six cut film holders, cut film magazine, plate holder, lantern slide plate holder, ground glass focusing panel, K1 filter, adapter to increase bellows extension $3"$, excellent condition. \$150.00. Brixner, Box 63, El Paso, Texas.

◆ $3\frac{1}{4} \times 4\frac{1}{4}$ Zeiss Trona, $f:4.5$ Tessar in Compur, holders, adapter, Distar lens, carrying case, good condition, \$29.50. Simplex Pockette 16 mm. camera $f:3.5$ lens, like new, \$27.50. B. Mounce, 5209 Caroline, Houston, Texas.

◆ 4×5 Series D Graflex, $7\frac{1}{2}"$ $f:4.5$ Kodak Anastigmat, K1 filter, case, new condition, \$87.50. 4×5 cut film magazine, \$10.00. 4×5 Dallon Tank, \$4.50. Eastman Autofocus enlarger prior model, almost new, \$18.50. H. M., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Contessa Nettel Duchess Stereo 45x107, Zeiss $f:6.3$ lenses in Compur. Pack adapter. List \$125.00. All condition, \$32.50. Frank Wilkin, 2060 Allston Way, Berkeley, Calif.

◆Anastigmat lens in Compur $f:4.8$, 110 mm. focus, \$7.50. 16 mm. Keystone Projector, \$3.25. No. 1 Kodak Special, \$15.00. Portrait lens $f:4$, $6"$ focus, \$7.50. Portrait diffusion disc and holder. Goerz graduated sky filter, fits up to $2\frac{1}{4}$ lens. Clarke, c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Leica equipment. Filters: Sky, No. 1, X1, \$2.50 each. Micro-adapter, new, \$2.50. Newest Umino Projector, \$35.00. 90 mm. $f:4$ Telephoto, autofocus, \$50.00. Photoscop meter, \$19.50. M. H., Camera Craft, 703 Market St., San Francisco, Calif.

◆Beattie Flood Lamp, the Maxima, exceptional bargain. Boussum Studio, 133 Geary St., San Francisco, Calif.

◆Bell & Howell 70D, complete with $1"$, $f:3.5$; $1"$, $f:1.8$; $3"$, $f:4$; and $6"$, $f:4.5$ Cooke lenses; lens modifier, duplicator, Heintz Title Hood, Speedee lettering device, Thalhammer Senior Tripod, Ampro model A. S. projector, $30" \times 40"$ beaded screen, and Bell & Howell Editing machine. Cost over \$600.00, make offer for all or part. A. J. Holton, 1446 Jones St., San Francisco, Calif. PROspect 8200.

◆Ica roll, cut film, plate camera; long extension, Dagor $6\frac{1}{2}$ inch, Ilex Acme $1/300$. Stereoscopic (standard) Zeiss Protars; magazine. \$23.00 either camera. Hypnotic Course \$3.00. Graham, 1529 Ridge, Philadelphia, Pa.

◆ $3\frac{1}{4} \times 4\frac{1}{4}$ Series B Graflex R.B., $6\frac{1}{2}"$ Kodak Anastigmat $f:4.5$, film pack adapter, leather carrying case, like new, \$75.00. Gordon Michie, c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Cirkut Camera, 10 inch, like new, with Turner-Reich and printer, complete \$200.00. Frank Pater-son, Box 437, Santa Rosa, Calif.

OUTFITS FOR SALE

◆One Icarette L Camera with dozen holders, 5 filters, Distar and Proxar lenses. All new. Mrs. Mary S. Stephens, Box 111, Woodland, Calif.

◆Memo universal copying camera used very little will sell for \$25.00. Portland Soft Focus Lens $9"$, $f:4.5$. Fine for portraits, \$15.00. Wm. Pabst, Jr., 1207 Clayton St., San Francisco, Calif.

◆Professional Movie Camera 35 mm. The property of the late Dr. L. S. Sugden. Tripod, two lenses; 7 film holders, capacity 200 feet each; and carrying cases, \$300.00. E. J. Hamacher, Whitehorse, Y. T., Canada.

◆Ica Stereo \$200.00 camera outfit. Zeiss 4.5 lenses. 6×13 . Automatic plate magazine and extras. Fine condition, \$65.00. Arisman, Box 135, Chicago, Ill.

◆Rolleiflex $1\frac{1}{2}"$ by $1\frac{1}{2}"$ Zeiss Tessar $f:2.8$, carrying case, combination back for cut film, 3 cut film holders, sunshade, and leather case for sunshade. Paid \$136.10 new will sell for \$87.50 cash. A. B. Carlson, 44th & B Sts., Lincoln, Nebr.

OUTFITS WANTED

◆ 8×10 and 5×7 anastigmats; 4×5 W. A. lens. Will trade $6\frac{1}{2}"$ B&L W. A. Protar, Series IV. Charles A. Goodwin, Box 143, Arcata, Calif.

◆ 4.5×6 cm. (vest pocket) plate holders for Dallmeyer Speed Camera. Irl Gordon, 104 Bittmas St., Akron, Ohio.

◆Graf Variable, or Heliar $f:4.5$ in compound shutter, or Dallmeyer Series B. All $7"-8\frac{1}{4}"$ focus. Quote cheapest cash price. Y. O., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Modern 4×5 View Camera and accessories. Give description of machine and lens equipment. Price must be low. S.P., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Good Stereoscopic Camera and lenses. Any good matched lenses from 3 to $7\frac{1}{2}$ inch focus with or without stereo shutters. Give complete description. W. C. Lewis, Room 310, 3030 Euclid Ave., Cleveland, Ohio.

FOR SALE OR EXCHANGE

◆Trade, National Match Star Gage Springfield Rifle fitted with Lyman No. 48 sight and leather sling, for small camera. Prefer Zeiss Ikon, Ikonmat A fitted with $f:3.5$ lens or its equivalent. Wm. W. Reiter, 1437 Greystone Dr., Pittsburgh, Pa.

STUDIOS WANTED

◆Want to buy progressive studio outright or part interest. Studio may do portrait, commercial, or kodak finishing together or separately. Give complete details in your reply. M. J. R., c/o Camera Craft, 703 Market St., San Francisco, Calif.

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- I Scope and Uses of Projection Control
- II Equipment and Materials
- III Negative Quality
- IV Simple Projection Printing
- V 4 Methods of Projection Control
- VI Framing
- VII Local Printing
- VIII Distortion
- IX Montage and Combination Printing
- X Pax Vobiscum
- Appendix: Advantages and uses of the Texture Matrix

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"North Palisade, Sierra Nevada"

Ansel Adams

Group F:64

John Paul Edwards

IN August 1932 a group of photographic purists met informally at a fellow worker's studio for a discussion of the modern movement in photography.

All present had sympathetic ideas and ideals regarding the importance of the pure photography movement. It was felt that these kindred interests could be fostered to mutual advantage by the formation of a small active working group. Such a group was formed and given the significant, albeit provocative title, Group f.64. A group this, without formal organization or by-laws, officers, or titles, but strongly bound by appreciation of pure photography as a medium of personal expression.

The original membership of Group f.64 consisted of Edward Weston, Ansel Adams, Imogen Cunningham, Willard Van Dyke, Sonya Noskowiak, Henry Swift, and John Paul Edwards. Recently, Dorothea Lange, William Simpson, and Peter Stackpole have been added to the group.

The purpose of Group f.64 is not militant. It has no controversy with the photographic pictorialist. It does feel however, that the greatest aesthetic beauty, the fullest power of expression, the real worth of the medium lies in its pure form rather than in its superficial modifications. Photography per se has inherent fine qualities which are never lost, though sometimes momentarily forgotten. The modern purist movement in photography, emphasized by the work of Group f.64 presents nothing essentially new, but is a definite renaissance.

Periodically, the history of photography has been colored by new phases of a nature so fleeting that they must be classified as momentary fads. Most of them have left, in material degree, no influence upon photography. Witness the vogues which have in turn intrigued the worker: the soft focus lens, carbon, carbonyl, gum, bromoil, bromoil transfer, faint grey monotone printing, or its counterpart, stygian blackness, and what not. The superficial character of these phases is proved by the fact that they seemed so important at the time, and now are almost forgotten.

A brief word as to the methods and working equipment of the group:

Generally speaking, a view camera on a sturdy tripod is favored for landscape and still life subjects. The camera should have a full range of adjusting movements. Any lens of suitable focal length anastigmat or even a good rapid rectilinear may serve well. A great investment in fine



"Vineyard"

Edward Weston

optical equipment is quite unnecessary unless one so desires. For portrait photography, the camera used in most cases is the Graflex.

For negative use, the super speed panchromatic film, and the film more recently offered, Panatomic. The Pyro-Soda developer indicated by the manufacturer is the most generally accepted. K1 and K2 color filters provide an ample range of color correction for nearly all subjects.

As a printing medium, glossy papers more correctly present the value of the negative, and give a depth and richness of tone utterly lost on matt surface papers. An unobtrusive plain white mount is most desirable for these prints, and a dry mounting press is quite necessary for satisfactory mounting. Group f.64 feels as a basic principle, the ever present importance of striving to achieve the most perfect technique possible within the limitations of the respective instrument used.

That we might view this subject from varied personal angles, I have requested and here present statements from four of the original members of the group regarding their individual approaches to photography:

Edward Weston

To quote Edward Weston: (From "Photography", by Edward Weston, copyright 1934, Esto Publishing Co.)

"Both the limitations and the potentialities of a given medium condi-



Imogen Cunningham

tion the artist's approach and the presentation of his subject matter. But limitations need not interfere with full creative expression; they may, in fact, by affording a certain resistance, stimulate the artist to fuller expression. The rigid form of the sonnet has never circumscribed the poet. In the so-called limitations of its means may be discovered one of photography's most important and distinguishing features. The mechanical camera and indiscriminate lens-eye, by restricting too *personal interpretation*, directs the worker's course toward an *impersonal revelation* of the objective world. "Self-expression" is an objectification of one's deficiencies and inhibitions. In the discipline of camera-technique, the artist can become identified with the whole of life and so realize a more complete expression.

An excellent conception can be quite obscured by faulty technical execution, or clarified by faultless technique. Look then with a discriminating eye at the photograph exposed to view on the Museum wall. It should be sharply focussed, clearly defined from edge to edge, from nearest object to most distant. It should have a smooth or glossy surface to better reveal the amazing textures and details to be found only in a photograph. Its value should be clear cut, subtle or brilliant, never veiled. This in brief is a pattern to work to."

Willard Van Dyke

"I believe that art must be identified with contemporary life. I believe that photography can be a powerful instrument for the dissemination of ideas, social or personal. I believe that the photo-document is the most logical use of the medium."

Ansel Adams

"I consider the production of Group F 64 as definitely transitional in character. I define *transitional* in regard to point-of-view—aesthetic and social. I believe we have obtained a fairly final expression of mechanical technique (in reference to the present development of the medium), and I think our next step should be the relation of this technique to a more thorough and inclusive aesthetic expression.

Our work has been basically experimental. In our desire to attain a pure expression in our medium we have made powerful attacks in various directions, stressing objective, abstract, and socially significant tendencies. These phases of our work should now be taken from the laboratory (along with our technical attainments) and functionally applied. I have always disagreed with an *obvious* approach to the above phases: I have argued that a basic aesthetic motivation was sufficient in all forms of art, and that this motivation, when applied to a definite functional problem, became in itself socially significant.

I feel we have taken upon ourselves an obligation to photography and to art in general, which we must always accept as a basis of our production. We have done truly important work in the re-establishment of the pure photographic medium as a form of Art; how important our contribution is only the future can reveal.

With this conviction in mind, I maintain that we can never lose sight of the transitional character of our present work. The comment I receive most often on Group F 64 is one of positive opinion that we have



"Port Anchor"

John Paul Edwards



"Farm Buildings"

Willard Van Dyke

established a school—a technical ritual—and that we are active in maintaining the *status quo*. We have become an *institution* in the mind of the photographic public; a rather disturbing and radical institution,—and our chief task at present will be to keep the prestige we have developed and at the same time expand in fresh and stimulating directions.

We have built up a host of imitators who, in the main, have merely extracted surface aspects—detail, glossy papers, white mount-boards, forced view-points, etc.—and are confident that they have achieved the quality of a Weston in so doing. Sad but true, most of this work is little better than average from any standards, and the most unfortunate element therein is the sense of false values established in the photographer himself. He seldom realizes that photography is not the result of any one, or of several, formulae or taboos; the ultimate aspect of the truly fine photograph is derived only from the comprehension of detailed elements in relation to basic conception. What photography seriously requires is adequate criticism on its own terms.

One of our major achievements is the exposition of the fact that diverse personal tendencies can be expressed through a similar approach to the medium (technically and intellectually). We have interpreted our respective points of view in a consistent purity of technique and aesthetic conception. Our ultimate objectives of expression are not identical by any means. The variety of approach, emotional and intellectual,—of subject material, of tonal values, of style—which we evidence in our respec-



"Mathematical Solid #1

Henry A. Swift

tive fields is proof sufficient that pure photography is not a *metier* of rigid and restricted rule. It can interpret with beauty and power the wide spectrum of emotional experience."

Imogen Cunningham

"Photography began for me with people and no matter what interest I have given plant life, I have never totally deserted the bigger significance in human life. As document or record of personality I feel that photography isn't surpassed by any other graphic medium. The big discussion as to whether it is an art or not was settled for me as well twenty years ago by many writers in Stieglitz' publication "Camera Work" as it is to-day. Lewis Mumford says there are fewer good photographers than painters. There is a reason. The machine does not do the whole thing."

Sail Ho!

William S. Davis

AT sea the lookout's cry of "Sail ho" always attracts immediate attention, and to landsmen who love the sight and smell of salt water the constantly shifting panorama of shipping in a busy harbor or the sight of passing vessels while afloat is a never failing source of interest. And when such lovers of maritime activities are also photographically minded, delight in watching sea-borne traffic is likely to be intensified, as countless fascinating opportunities for picture-making present themselves.

It is not alone the variety in types of shipping—from row-boats to ocean liners—which make marine photography attractive. One must also include the infinite variety of groupings that occur, and the different atmospheric and sea effects that form the setting. The only thing which sometimes dampens the enthusiasm of workers is their failure in early attempts to capture a fair amount of the charm noted by visual observation of the subject. This, however, is to be expected when dealing with any unfamiliar line of subjects, and is due not only to technical inexperience as regards working conditions but inability to size-up correctly the possibilities of the material from a pictorial point of view, since it is one thing to enjoy a scene in a general way, and quite another to recognize the particular elements which may be satisfactorily utilized in the production of an expressive composition. But thoughtful observation always leads to greater understanding, and this in turn to more successful interpretation.

Naturally, the basic principles of good composition must be observed in using marine material. Where space divisions are few, as in most open scenes, especial consideration should be given to the relative areas occupied by the larger masses, consisting of sky and water, and to the proper location of one or more isolated vessels, since these form prominent spots that catch the eye. Equality of spacing produces a bad effect. The horizon-line, for instance, should not cut the picture-space into halves, but, instead, be located below or above the center, as circumstances may dictate. Usually, from one-third to two-fifths of the total space is given to



"Anchored in the Fog"

Wm. S. Davis

Made from the end of a pier at Orient, New York, with a No. 1 Kodak and anastigmat lens, on a December day at about 3:15 P.M., the light being yellow in hue, due to the sunshine penetrating dense fog. Exposure $1/25$ second at $f7.7$ on Auto-graphic film. Enlargement from practically the entire negative.

the water, but no hard and fast rule can be laid down about this. One rule may be accepted as fixed however—namely, the true horizon should be level. It may seem foolish to mention this, yet one often sees pictures showing the horizon badly tilted, either by reason of careless trimming, or the lack of trimming to overcome misplacement in the negative.

The principal object should be to one side of the center, but not so close to either or the side margins as to make the composition lop-sided. When this object is a vessel moving across the field of vision it is nearly always best to allow most space ahead of the vessel, so she will convey the impression of sailing into, rather than out of, the picture. These observations are of course quite elementary, nevertheless, the errors of beginners and others who are careless about composition seem to justify their repetition.

In scenes showing several vessels, try to avoid equal spacing between them—for the effect of such spacing is mechanical and monotonous. A group of several vessels is often attractive, but one craft or mass should be sufficiently dominant to produce unity of interest. A distinct accent of light or dark tone may do the trick as well as a difference in the size of an object. Employment of small craft, or those at a greater distance, well over to one side to counterbalance the "weight" of a large mass upon the opposite side, but nearer the center, is often useful in group arrangements. Vessels passing in opposite directions may add to the lively character of a marine scene, but one craft must be of considerably less importance than the other in the composition to avoid conflicting effect in the action depicted.

No particular viewpoint can be considered best, *per se*. Broadside, quartering, bow or stern views are all good in their several ways, the choice depending upon the sort of composition desired or the action one wishes to render. Vessels under way usually present the most animated appearance when seen in a quartering position, approaching or going from the spectator. The foreshortening and perspective is doubtless a factor in helping the impression of action, though in the case of sailing craft in a good breeze the slanting lines of the masts as the vessels heels over under the force of the wind, together with the repetition of curved lines having a diagonal trend in the forms of the sails, is even more important. When "running free" before the wind a broadside view can convey a fine feeling of action, due to the wind-filled sails being well shown, together with the waves flowing past the hull.

Seemingly minor details frequently possess considerable suggestive value in the rendition of motion, as the curl of water or cloud of spray around the bow; the foamy wake astern, and in the case of a steamer a puff of escaping steam or streamer of smoke from the stacks. Indeed, inclusion of one or more of these details affords almost the only means of suggesting motion in a power-driven vessel.

When repose, rather than action, is to be the keynote, strong slanting lines should give way to vertical and horizontal lines. The latter, as encountered in distant shores, ripples on the water and the hulls of vessels; vertical lines formed by masts and their reflections; slack and furled sails, all help to convey a feeling of rest and quietness.



"Everything Drawing"

Wm. S. Davis

Home-made $3\frac{1}{4} \times 4\frac{1}{4}$ camera, fitted with 6-inch Ilex anastigmat, employed. Subject photographed from a moving steamer on a clear day in July at 5:30 P.M., standard time. Exposure $1/100$ second at f8 on Cramer Inst. Iso plate. Print an enlargement from practically the entire negative.

Height of viewpoint is of considerable importance, particularly when shipping is fairly near the observer. Interesting "foreground compositions" are frequently produced by looking down upon small craft at a pier or moored alongshore, but large vessels seen from a high elevation appear toy-like. On the other hand, a viewpoint relatively near the surface of the water will make any vessel of moderate size loom up quite imposingly. The perspective of waves is also more strikingly shown from a low viewpoint.

Since shipping cannot be pictorially considered apart from its setting of sky and water, these elements of a marine scene are exceedingly important. Aside from the fact that the aspects of the elements is indicative of the weather conditions, the lines formed by waves and clouds are valuable in supporting those of the shipping and in binding together the various parts of the composition into a coherent whole. Then too, much of the beauty of a marine picture depends upon its tonal quality as imparted by the gradations in sea and sky. Hence, these parts as well as the shipping need to be rendered with regard for truth to effect. A white-paper sky is particularly offensive in a seascape because normally so much space is allotted the sky that one cannot overlook it. Though clouds are often desirable, a clear sky may be entirely harmonious in many cases if the natural gradations are well interpreted. Special "effects", such

as mist or fog, and sunsets with shipping seen in dark masses against-the-light, afford a basis for very beautiful compositions. Quiet phases where reflections are a feature; wharves with shipping alongside, and small craft drying sails after a shower are other types of subjects worth noting.

Few technical suggestions will be needed by workers well versed in other branches of outdoor photography.

It can be taken for granted that some kind of a hand-camera will be used, at least for work afloat. One fitted with a direct-vision finder, preferably of the open wire-frame type, is most practical. The latter type of finder affords the advantage of permitting constant observation of moving objects when outside as well as within the field covered by the camera lens. Size is largely a matter of personal preference, though it may be noted that under some circumstances there is one drawback attached to employing an extremely small camera. This is the fact that in long range shots of vessels considerable extraneous surrounding material is unavoidably included, so only a section of the negative is used in making finished enlargements. Hence, if the selected portion is on too minute a scale a high-power enlargement will be coarse in texture and lacking in detail. This objection may of course be overcome if a lens of relatively long focus can be fitted, but most of the modern ultra miniature instruments do not permit free interchange of lenses. The $2\frac{1}{4} \times 3\frac{1}{4}$ size allows considerable latitude in the selection of desirable portions of negatives, but for all 'round marine work the $3\frac{1}{4} \times 4\frac{1}{4}$ size is particularly desirable in the writer's opinion.

A well fitted lens-shade should certainly be employed, and a pale filter can be very useful on occasion, whether ortho. or pan. type sensitive material is employed. The filter not only produces proper differentiation of tone between white sails seen against a light blue sky, but is of service in bringing under control a scene containing strong contrasts if full exposure is allowed for the darkest parts.

Taking a typical open landscape with summer foliage as a basis of comparison in estimating exposure, one may give one-eighth as much exposure on an average open shipping scene. When vessels at very close range fill much of the picture-space, or dark masses around wharves are included in the foreground, more time will be necessary as a rule to insure shadow detail—say about twice as much as for more distant shipping. The quantity as well as the intensity of the darker tones really determine the amount of exposure required when other factors remain the same. Properly used, an exposure-meter is a first-rate investment.

In working from a moving vessel the motion of the latter is a more important factor than movement of the subject in determining the length of exposure that may be given without obtaining a blurred image. This is particularly true of all power-driven craft, since vibration set up by the engines is felt to some degree everywhere on board. However, if the camera is held in the hands, rather than rested against any portion of the vessel, and the subject sighted as steadily as circumstances will allow, one's body will act to a certain extent as a natural "shock absorber". Usually an exposure of 1/100 second will then be short enough to produce an image free of visible blurring.



"Outward Bound"

Wm. S. Davis

A fishing schooner of Lunenburg, Nova Scotia, but photographed from the pier-head in port of Long Island, N.Y. Made with a No. 1, series II, Kodak and Kodak anastigmat lens, on a clear day in late November at 9 A.M. Exposure 1/50 second at f11 on Eastman Autographic film. Enlargement from a section about two-thirds the full area of the negative.

Construction Of A Portable Floodlight

Lloyd J. Cartwright

WHAT amateur photographer has not had the experience of attempting to make portraits by artificial light, of small children who persist in moving just as they assume the most interesting pose? I found that ordinary incandescent lamps would not furnish enough light for the short exposures necessary. Professional lamps proved too costly. I therefore turned to the new "Photo-flood" lamp, which, when used in reflectors and in sufficient numbers, solves the problem of low-priced illumination of sufficient intensity to allow relatively fast shutter speeds indoors.

It soon became evident that a self-contained floodlighting unit would have many advantages so I designed and built a portable floodlight, the construction of which is forthwith described. It has all the advantages of portability, light diffusion and brilliance, lightness, low initial and operating cost and occupies small storage space.

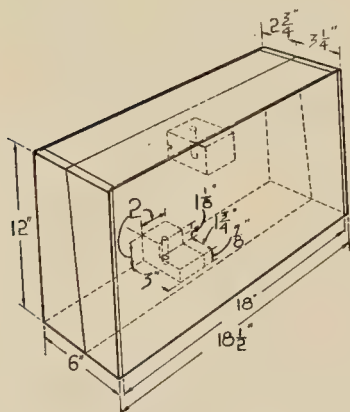


Fig. 1 Case Assembly

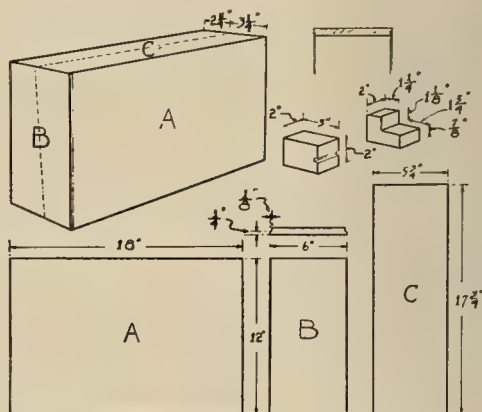


Fig. 2 Complete Layout

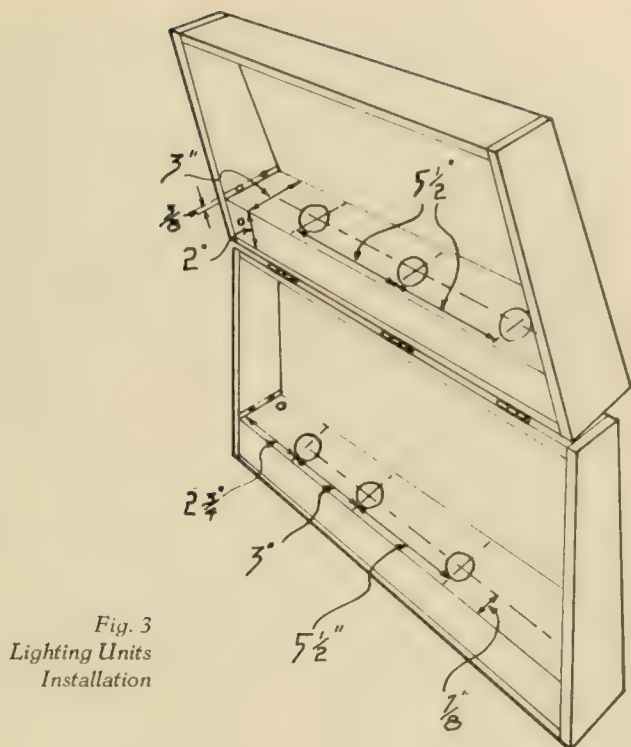


Fig. 3
Lighting Units
Installation

The case is constructed as a closed box and then cut apart with a band saw, so that each half will fit together when the case is closed for carrying or storage. Obtain two pieces of $\frac{1}{8}$ inch presdwood, 12"x18" for the sides. The ends, the top and bottom are built of $\frac{1}{2}$ inch gum wood. The ends are cut to 6"x12". The bottom and top are $5\frac{3}{4}$ "x $17\frac{1}{2}$ ", assembled as shown in figure 1. The joints are held with casein glue and brass wood screws. After the glue is set, the box is cut apart diagonally (Figs. 1 and 2) so as to allow mounting the lamps at sufficient distance from the case sides to provide for heat dissipation, at the same time, this arrangement keeps the dimensions down to reasonable proportions.

A hardwood block, 2"x2"x3" is now installed in each section as shown. These should be fastened with glue and screws as we will later drill a hole in each to take the lamp stand rod or support. A groove is put in the block that is to be in the lower half of the case, to allow for the wiring. A section is also cut from the upper block as shown, to provide space for the middle lamp socket.

The interior is now given two coats of aluminum paint and the outside finished with dead black.



Fig. 4 Lighting Unit Assembly



Fig. 5 Completed case, showing ease with which it may be carried and the relatively small size.

The hardware is now added and consists of eight brass box corners, three brass hinges, two chest fasteners and a chest handle or old traveling bag handle. In addition, two pieces of $\frac{1}{8}$ " square brass are mounted where the holes are to be drilled in each section to take the lamp-stand rod. The holes are best drilled on a drill-press. The hinge pins may be removed and either or both units used alone.

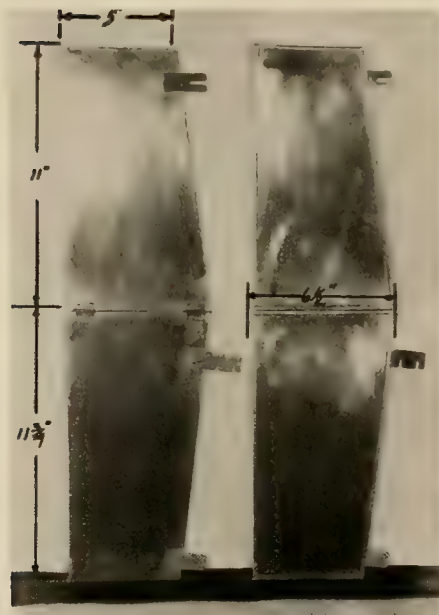


Fig. 6 Completed side shields



Fig. 7 Shows completed floodlight. The diffuser is being drawn over the front of the opened case.



Fig. 8 Installing upper lighting unit.



Fig. 9 Completed interior assembly.

Figure 3 shows the construction and installation of the lighting units. From 24 gauge galvanized sheet iron, cut the blanks to the dimensions given. The holes for the lamp sockets are cut with a $1\frac{1}{2}$ " die. Now bend to shape. The upper unit will contain three lamps and the lower, two. Drill holes for the wiring bushings and for the mounting screws. By providing a universal receptacle, the cord can be detached readily.

Sign receptacles are used for the lamps because they occupy little space and are easily concealed. Use #14 stranded copper wire. Connect the receptacles and mount by simply screwing the ring on to the sockets so as to clamp it in the hole. (See figure 4). A little shellac placed on the rim of the lower section will help hold it in place more securely. Figures 8 and 9 show detail of wiring between sections. They can easily be disconnected when the sections are used apart.

In order to prevent unnecessary spreading of the light and to help direct it, side shields are constructed of bright tin. Each is made in two sections as shown (Figures 6 and 7). The sections are connected by soldering brass hinges so that the shield may be folded and placed in the case. The hooks for attaching to the case are made of heavy gauge sheet iron and soldered on. One hook on each section engages with round-headed wood screws inside the case. These wings also serve to hold the upper section of the case at the correct angle for reflecting the light slightly downward. (Fig. 9).

While the plain aluminum painted reflecting surface provides considerable diffusion of light, a tracing cloth diffuser is built into the case for use when a very soft light is wanted. An ordinary shade roller is first mounted inside the upper section. A piece of tracing cloth, 36"x16½" is mounted on the roller with small tacks. In the hem at the bottom is placed a piece of steel curtain rod, the weight of which will hold the diffuser flat when unrolled. To hold the diffuser out from the lamps, a light iron rod is hooked to holes in the corners of the upper sections of the side shields. If the roller has been mounted close to the top, the spring will hold the steel rod tight when the diffuser is rolled up and thus keep it from coming loose from the hangers.

A folding lamp stand can be purchased from any dealer in photographic supplies or an old automobile steering wheel assembly may be adapted to the purpose.

I have used this lamp for some time and have found it very efficient. Children close to the lamp may be photographed with a shutter speed of from 1/25 to 1/50 second at f.4.5 with Supersensitive Panchromatic film. It has also been used without the diffuser for large school groups and provides plenty of light for an exposure of one second at f8. with Supersensitive Panchromatic film.

Miniature Camera Technique

Edwin C. Buxbaum, A.R.P.S.

Part IV

A BEAUTIFUL and technically perfect projection print from a miniature negative is full and complete evidence of careful workmanship. No careless worker can carry through the operations necessary to miniature technique and arrive at a fine print. If the print contains no white marks, no evidence of dust specks and no long, thin scratch marks, it means that care was exercised in the manipulation of the camera and the development of the film. The sloppy worker simply cannot do this. Nevertheless, there is a certain amount of control that can be used after the negative has been prepared for enlargement.

Dust is the greatest enemy of the miniature camera operator. It gets in his camera, in his lenses, and worst of all, it rests on his negatives. Removing it is not so simple as it seems. In the first place, the specks of dust that cause the most trouble are practically invisible until they are seen on the developed print. How shall we avoid them? Films should be

stored so that dust will not accumulate on them. Light tight boxes such as are used to hold contact paper in a dark room are usually excellent for storing films in a dust proof manner. Envelopes are also satisfactory. The less dust the better. Before inserting the strip or roll of film in the carrier, make sure that there are no dust specks on it.

Careful examination under a strong light will often show them up. They can be picked off with the tip of a camel's hair brush. Or, the film strip can be held emulsion side down and brushed with such a brush until the dust specks fall off. Another method used by some workers is to wash their hands, dry them until the fingers are dry but very slightly moist and then rub the ball of the thumb down the length of the film strip. Such a method seems to be effective. A washed hand will not mark any film if done carefully. Dust on the enlarging machine is another matter. Electrostatic charges have a tendency to cause the dust particles to repel each other and this makes it difficult to remove them. For this reason, the metal projection enlargers used for miniature work should be grounded with a wire. Dust that accumulates in the machine should be wiped off with an absorbent rag. If your enlarger contains condensers be sure to clean them once in a while. Sometimes molds will grow between a set of condensers. If your enlarger has a black, painted interior lamp house, clean this out occasionally as particles of paint will sometimes fall off the wall. The lens should also be watched for dust. It is a good idea to focus on a piece of white paper before beginning any work. Rack the lens backward and forward and if there are any dust specks in the optical field, they can be removed before they do any harm.

Enlargers for the miniature camera are of various types in regard to the mechanism that holds the film. In the Leica enlarger, the film is finally held by the condensor which clamps down upon the film. Some fastidious persons even think that such an action will finally tend to scratch the film. Other carriers enclose the negative between two sheets of optically ground glass. This is satisfactory if the glasses are kept scrupulously clean and if the film is not drawn between the glasses. It is rather difficult to handle but works out well without scratching the film. Other carriers hold the film between metal guides. The trouble with these is that one can not be sure that the film lies absolutely flat. Long exposures will also buckle the film unless very effective cooling is used. From an examination of the carriers used, it can be seen that an ideal carrier would enable the operator to hold the film absolutely flat, move the film in the carrier without scratching, and give long exposures without buckling. If long exposures are necessary, a photo flood light can usually be used but the intense heat given off makes them rather dangerous to use unless the cooling system is unusually good and prevents buckling.

Enlargement of miniature negatives presents certain problems peculiar to this sized negative. The average miniature enlargement probably lies between eight and fifteen diameters. Twenty diameters is not unusual. Such enlargements require powerful lights and enlargers. If chloride-bromide papers such as Vitava, Opal, or Velour Black are being used, a twenty diameter enlargement will take quite a long exposure. For this reason, a condensor system seems necessary. One, two, or three con-

densors can be used. Most systems use one, although two or three can be used in home made enlargers. The position of the enlarger condensers is important from the viewpoint of exaggerating defects in the negative and every maker of an enlarger will experiment for some time before he finds the best position. A two inch lens provides a convenient distance from lens to paper. Focusing large prints from tiny negatives is sometimes difficult. If motion picture film is used, the sprocket holes with their sharp edges can be used as a guide to focus. It is also well to have some means of masking the negative so that extraneous light areas will not fog the paper during the projection of the negative upon the printing frame. Magnifiers can also be used to examine the negative image.

The miniature camera user can exercise a great deal of control over his enlargements through the careful use of and by the proper selection of papers. Also, a certain amount of contrast control can be exercised in the development of the print. Too much should not be attempted.

It is a good policy to plan the evening's work by choosing a certain number of negatives, perhaps six or so, and working on them alone. It is not a good policy to work up six pictorial prints, two dozen snap shots of the baby, and a couple of commercial 8x10 glossies during the course of one evening.

The choice of papers for miniature work provides a way of masking or hiding any defects that may have slipped through to the projection stage. Matte papers are easy to work on with pencil or spotting colors while rough papers hide grain, small defects and scratches to a limited extent but cannot be worked upon very easily. Glossy papers of a smooth type are the most revealing. In general, however, the miniature camera worker should not be forced to this evasion to get a fine print.

However, because so many prints from miniature cameras do have defects of various kinds, it is a good thing to know how to hide them or treat them so as to make them less apparent. Perhaps the simplest defect to remove from sight in a large enlargement is the white mark or blemish usually in the form of a circle resulting from a tiny speck of dust. For this purpose, obtain a pencil of a softness about equal to a drawing pencil used for sketching. Such pencils, called Carbon pencils can be obtained from any art materials store. A sharp point should be used. Now, with the lightest touch possible and without bearing down on the lead, fill in the mark with tiny lines cross hatched, that is at different directions to each other. Do not attempt to fill in the entire space: a few lines will give the effect of having filled the entire space without showing any alterations. In general, do too little rather than too much. Sometimes in a small white space, one single light dot will make the blemish disappear from sight. Work close to the print under a strong light but view it from about a few feet every few minutes. Above all, do not use a pencil of the hard type which will give a shiny appearance when viewed obliquely.

Blemishes due to small portions of the negative being cut or gouged out occur now and then and show as black marks on the print. Sometimes they can be made invisible by simply scraping them ever so lightly with an etching knife of the sort used by retouchers until the black has



"Vento"

Dr. Enrico Giovannelli

18th Los Angeles International Salon

merged into the grey of the print. Or, the black deposit can be removed entirely and filled in by pencil. Spotting colors can be used very effectively too, but the correct shade must be on the brush before application as once they are placed upon the print, they cannot be changed very easily.

The worst offenders of all blemishes are the parallel white lines indicating a scratched negative. These are hard to remove but if done skillfully, even these can sometimes be made to fade into the picture. Whenever the line crosses a comparatively dark area, pencil over the line in the direction of the dark area. When all of these have been worked in as much as possible, a very light touch directly along the line of the scratch will often eradicate it. If too heavy, erase and try again. This elimination takes quite a bit of skill but some practice on an old print is very illuminating. Of course, if your technique is perfect, none of this is necessary but I have yet to see the print made from a miniature negative enlarged over fifteen diameters that does not require some treatment. But then, how many enlargements of two and three diameters from larger cameras require treatment too! Let us be consoled.

When the layman sees the magnificent prints which he is told are made from a negative "scarcely larger than a postage stamp", he marvels at the wonderful achievement. And, if he is at all photographically

minded, he hastens to purchase one of the miniature cameras as soon as his finances permit. What he does not usually know at the time of his first enthusiasm and what he usually learns very fast is that fine prints of great size cannot be made without intensive study, meticulous care and infinite pains in the handling of all his apparatus throughout what seems a complicated series of processes before arriving at the final product, the print.

It is lack of the knowledge of the care necessary to the successful operation of the miniature camera which has caused quite a few enthusiasts to abandon the miniature camera and go back to their larger size instruments where they do not have to worry about microscopic particles of dust. Every prospective purchaser of small cameras should be made aware of these facts before he buys such an instrument. A complicated instrument of such precision as the miniature camera requires intelligence to operate. When such an instrument is operated with intelligence, I doubt whether there is any camera more versatile, more economical, convenient, or a greater pleasure than the miniature camera.

Vest-Pocket Darkroom For The Minicam

Raymond B. Collard

"LET'S move!"

These words brought to a head an idea that had lain dormant for many months. By dint of pressing into service a rather unusually large hall closet in a city flat the darkroom problem had, for a matter of two years, been quite satisfactorily taken care of. The suggestion of moving to an apartment or other quarters where space might not permit of the appropriation of really necessary storage space caused the darkroom problem to flair anew.

How much room would be available in new quarters? An investigation of quarters occupied by friends in various apartments and flats gave an indication of the space which might reasonably be expected to be available for photographic purposes without placing a strain on the family tie. Those readers who, as city dwellers, have photography as a hobby will realize that compactness, completeness and neatness are essential. Certainly no city flat or apartment within the writers ken was ever planned for the convenience of the amateur photographer and the lady of the

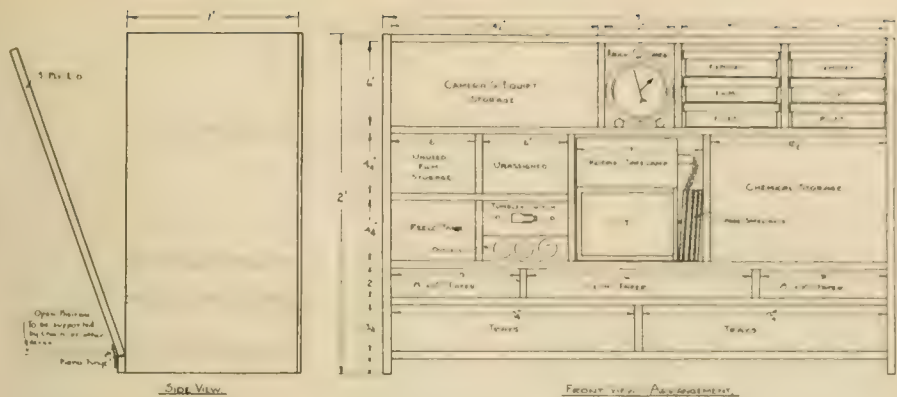


Fig. 1

house for some reason or other resents the cluttering up of her domain with miscellaneous equipment. Since the kitchen or kitchenette presents the logical base of operations, and a space of three feet by one foot on drainboard or table seems reasonably sure for availability, it was about this space that the vest-pocket darkroom as it has been dubbed, was planned. It might be mentioned that some bathrooms investigated offered a close second choice as a work-space.

It should be noted here that the writer is a "member of that great fraternity" of miniaturists and the vest-pocket darkroom was planned about such a camera as the Leica or Contax primarily, but with only a few minor changes it is eminently practical for the user of the "big box" as well.

Reference is now made to the drawing showing the arrangement of the interior of the cabinet. (See fig. 1). Six inches down from the top is placed a shelf which by partitions is divided into four compartments each a full foot deep since this is the available width of the "dark-room". The camera storage space $14\frac{1}{2}'' \times 6'' \times 12''$ is ample for the camera itself and a considerable amount of equipment such as is the amateurs delight. The center compartment holds the essential timer, and behind it, as is the case with several other compartments, more storage space is available. Completing the top shelf are spaces for at least six boxes of exposed film rolls such as are made for the purpose, each holding 25 rolls of Leica or Contax film dust-free and safe from scratching.

A second shelf, 9" below the first, and subdivided as clearly shown in the drawing, are assigned to unused film storage, a "Reelo" tank or tanks and equipment such as an agitator, a panel equipped with three electrical outlets and a tumbler switch controlling one of them and behind which is the simple system of wiring and an outlet for the safelamp. One $6'' \times 4\frac{1}{2}'' \times 12''$ cubicle remains in the left-hand section for duties unassigned. A safelamp occupies the center of this second shelf and sufficient room is allowed to accommodate four extra safelights of the standard $5'' \times 7''$ size. The remainder of the shelf is given over to chemical storage.

Scales may be stored here as well or may occupy the unassigned space to the left of the safelight.

A third shelf 2" below the second is divided into three sections, to accommodate contact and projection papers. While planned to hold a minimum of three one-half gross boxes of double weight paper of 8"x10" and 11"x14" size, those who buy their paper in dozen packages will find that they may easily make their selections of make, surface or grade as occasion demands.

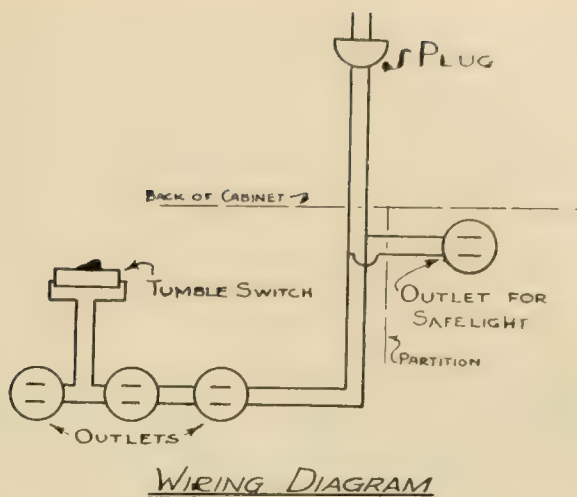
The lowest shelf, or bottom of the cabinet, coming 3¼" below the third shelf, affords ample space for the storage of developing trays. The writer uses exclusively a cream enamelled tray which may be found in the less expensive stores such as Kresses for twenty-five or thirty cents each. They measure approximately 8½"x12¼" at the bottom and are about 2" deep and have proved to be exceedingly satisfactory. A printing frame may be kept in the trays or in a space assigned to paper.

Now about construction. The writer realizes that, as drawn, the construction is not what might be termed a "cabinet job". It was found that ply-wood panels ¾" thick, 5 plys, and an even foot wide were available and about such stock and ½" pine shelves and partitions and ⅜" ply-wood back, the original "dark-room" was planned. The drop cover and hinge strip shown in the side view are made of a larger ¾" ply-wood panel, and the cover itself serves as a table for the enlarger when suitably supported by chains or other devices. It is recommended that a piano hinge be used, as indicated.

There is, of course, much lee-way in the matter of materials. A cabinet shop will easily and inexpensively make up such a case as this using those joints and methods best suited to such construction and the amateur may easily assemble the interior shelves and partitions to suit his fancy. In any case the cabinet must be *not less than one foot in available depth*. It may, as has been suggested, be placed on drainboard or table, or a sort of tea-cart-like arrangement using castors or free turning wheels may be constructed. The whole cabinet may then be easily moved from one location to another. Indeed, if the cabinet work is carefully done and finished, taking advantage of mouldings and other decorative features such as are available in cabinet makers or builders supply houses or, if desired, lacquer finished in the "moderne" style, a real piece of furniture will result. This leads to the further suggestion that additional storage space may be made below the cabinet proper to suit the convenience of the user. Naturally, there are many refinements which may be incorporated but it has been the writers purpose to give solely the set-up of the smallest, most compact and economical working unit such as will appeal to the average user together with suggestions for those who wish to go further.

It is unfortunate that the size and shape of the miniature enlarger precludes its being placed in the cabinet. This is an item which must be handled as a separate unit.

Now we come to the wiring. This is exceedingly simple. From a plug a cord sufficiently long to reach the outlet nearest the cabinet when in use is lead through the back of the cabinet to the outlets on the front



of the cabinet, a tap being taken off which leads to the outlet for the safelight. (See wiring diagram fig. 2). The tumbler switch is used to control the left-hand outlet, in which may be inserted a lamp and socket having a prong base. This may then be used as a controllable general utility or contact printing light. The other outlets are used for auxiliary equipment such as enlarger and lights for copying, extra ruby bulb in prong-socket base, etc.

Finally a suggestion or two to the amateur who must confine his photographic developing activities to an apartment house kitchen. For windows through which unwonted light may come procure black felt or other light proof material which may be fastened to the window frame in the manner of an automobile curtain. This is easily put up or removed. In lieu of this a very thin panel of ply-wood may be cut to size to cover the entire window and cloth-hinged in the center to fold for easy storage. A strip of felt such as the type of weather-stripping obtainable in the "5 and 10" tacked along the bottom of doors will keep out light from this point. The writer considers a changing bag a most desirable piece of equipment for the apartment worker. In this he may load his film cases or his tank. Those who have never used such a handy piece of equipment should obtain one and practice a few times on old stock. Not only is this bag of great convenience when at home but in traveling it is a real necessity.

It is hoped that these few suggestions about the "vest pocket dark-room" will help the amateur who is restricted to limited quarters to more successfully pursue his hobby.

Cinema Section

Edited by

William A. Palmer

New Splicing Technique

MOST amateur cinema workers do not pay enough attention to the mechanical technique of making a good splice. Splicing is considered by many to be an annoying necessity when one wants to get two pieces of film to stick together. Because spliced film does not ordinarily run through the projector as well as does the unspliced film there is a good deal of hesitation to make a splice unless it is absolutely necessary.

Now there is no doubt that a film without any splices is more desirable from the projection standpoint, but with the present method of amateur movie production where we use a single reversible film, any real good picture will have many many splices. As a matter of fact, it is hard to conceive of the perfect amateur film without a splice between each and every scene. Even the most expert of photographers can hardly make two scenes in the proper order and have them just exactly the right length to fit the tempo and continuity of the picture. It is usually necessary to trim from one or both of the films, thereby introducing a splice. Very often a reluctance to introduce a splice between two scenes, already in the correct order, accounts for unpleasant light flashes or awkward pauses being left in an otherwise well worked out picture. We must take as a matter of course that any film which we may make that is well edited is going to have lots and lots of splices. The obvious procedure for us to take is to be sure that the splices are made in such a way that they are not a detriment to the smooth projection of a film.

Improperly made splices are decidedly a detriment to a film, for they make a click as they pass through the projector gate, cause an annoying jump of the picture, and worst of all, cause undue strain on neighboring perforations that eventually leads to the necessity of a new splice and a discard of several frames of film. Splices are particularly objectionable in 8mm film when the thickness of the splices forces the gate open a bit and the scene weaves in and out of focus momentarily.

The usual directions for proper splicing as written on the direction sheets of splicing outfits are generally understood and followed, with perhaps the exception of the clause advising against the use of too much cement. The directions to scrape the emulsion off thoroughly, to apply a small amount of fresh cement, and then hold under pressure for a few seconds, usually result in a satisfactory splice, but it has been found that an elaboration of the technique can be used to make a splice as strong as the original film and as satisfactory to the projector mechanism.

This improvement in the usual splicing technique consists in scraping both

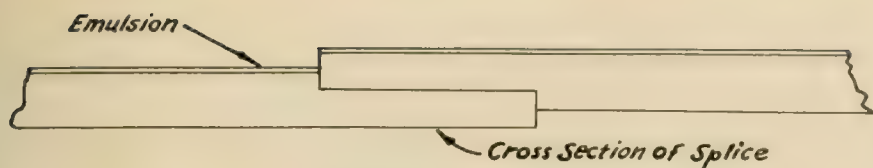


Fig. 1

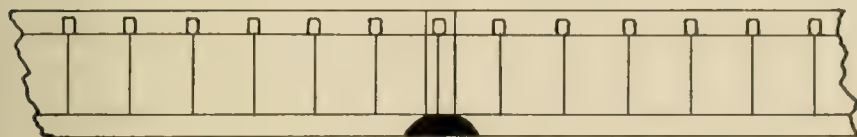


Fig 2

ends of the film so that the thickness of the splice is reduced from the usual double thickness to merely fifty percent greater thickness than the unspliced film. The operation can be done very easily with the type of splicer which is equipped with a dry scraper. The cutting blade or file of the dry scraper is so manipulated that it scrapes the emulsion and some of the film base from one end of the film. Then the other end of the film, which usually receives no scraping because the cement is applied to the back or celluloid side of the film, is placed in the splicer, emulsion down, and a portion of the film base scraped away.

Figure 1. shows how this scraping of both ends of the film—in one case on the emulsion side, in the other case on the celluloid side—will decrease the thickness of the splice. Theoretically it is perfectly possible to scrape the two ends just enough so that the splice is no thicker than the film base, but it has been found in practice that this results in too weak a splice. With splicers not equipped with a dry scraper it is possible to scrape away the film base by the use of a razor blade properly manipulated, or a small piece of steel file, or sand-paper stick (the kind used for finger nail dressing). The length of time necessary to make a splice is of course lengthened by the added operation, but it is time well spent, for a splice once well made should never need to be replaced. Improperly made splices not only mar projection by giving way at the wrong time, but cause the loss of two or three frames of the picture every time a new splice is made.

The type of splice used, straight or diagonal, is immaterial. Both have advantages and disadvantages. The straight splice is less apt to show on the screen but more apt to cause a jump in the picture; the diagonal splice usually runs more smoothly through the mechanism but is often quite noticeable on the screen.

The one other very important insurance for good splices, other than de-
MARCH, 1935

creasing the thickness, is the application of just the proper amount of film cement. If too much is applied and is squeezed out away from the splice, it is well to do the job over then and there. Even though the excess cement is carefully wiped away, the film upon which the cement has oozed will curl and buckle within a week and the splice is almost sure to cause trouble in projection.

In splicing 16mm sound film, the technique is just exactly the same as that for silent film. One thing is important, however, in regard to the position of the splice. If possible the splice should be put in a "dead" spot in the sound track. That is, the splice should be made at a point where there is no modulation or sound record. It is very annoying to have a word clipped in the middle. If one inspects the sound track with a small hand lens, he can very easily find a "dead" spot. After the sound splice is completed, it is desirable to treat it so that there does not occur a "bloop" in the loudspeaker as the splice runs through the projector. This is done as shown in figure 2. by painting a small semi-circular opaque spot over the splice. This painting is done with a special lacquer obtainable from any supply house dealing in theater projection equipment. Ordinary Duco or black lacquer will also do the job successfully. Still another method is to cut the semi-circle out of black cellulose tape and then fasten it over the splice. Some have advocated cutting a notch out of the film at the splice, corresponding to the opaque semi-circle. This, however, is not advisable, for it weakens the film and is apt to catch in the projector mechanism.

It is well to say in conclusion that the splicing outfit should be considered one of the major pieces of cinema equipment along with the camera, projector, tripod, and screen. A substantial expenditure for a splicer is worth while.

Amateur Movie Actors

ONE often hears the opinion expressed that amateur movies have little chance to become more than family newsreels and that films of a fictional nature, amateur photoplays, are doomed to failure because of the absence of good actors. The average amateur thespian with his awkward gestures and fierce "emotings" is compared with the smooth performances of professionals and the conclusion is drawn that acting for the movie camera is very difficult and quite out of the field of the average amateur.

Acting for moving pictures, especially silent ones is a requirement quite different than that needed for the stage. The moving picture is a very intimate medium with its powerful close-up and does not need careful poise and movement, with constant attention to an audience which is always on the same side of the set. The moving picture camera is completely mobile and can instantly shift its viewpoint to the best position.

Rather than to say that amateur movies need people who can act, it is better and more nearly correct to say that they need people who can be natural in front of the camera. For isn't it true that the awkward gestures of a tyro are all unnatural? As a person works before a camera for the first time, he

forgets all his normal actions and becomes some unnatural imitation of what he supposes a movie actor to be.

Most of the great actors of Hollywood are merely people who can be natural in the face of glaring lights and mazes of technical paraphernalia. Some unusual ones are versatile enough to be able to present the natural actions of several different types of people, but most are merely themselves and are always cast in similar roles. Thus the two greatest people that Hollywood has been fortunate enough to have, the late Marie Dressler and George Arliss, are always themselves on the screen. The same gestures and speech inflection that portrayed so magnificently Disraeli also portrayed Nathan Rothschild. Marie Dressler, whether dubbed by the titles as Emma, Min, or Tugboat Annie, was always her glorious self.

This lack of versatility on the part of even the great in Hollywood is not any reflection on potential ability but is a result of a quaint custom of the producers. It is seldom that an actor is given his lines to memorize until the night before he must do the part before the cameras. The next day with the hurriedly mastered lines the foremost in his mind the scenes are taken and to be natural under such conditions takes plenty of ability.

To get certain adults to be natural before the camera is a big job, but children can almost always be relied upon to perform well. Children, especially very young tots, don't know enough not to be natural. Hollywood makes a big noise about their child stars and well they may, for it takes a very unusual child to be himself in studio surroundings. But any normal child in home surroundings, with nothing more than a 16mm camera to disturb him, will give a performance that will rival Shirley Temple's.

Certain traits in a child or adult make it easier for them to be natural and determine greater suitability for the job of amateur movie actor. These traits and characteristics in the order of their decreasing importance are: Poise, Imagination, and Good Looks.

Upon the shoulders of the amateur movie director rests the responsibility for conducting himself in a way that will not keep his actors from being natural. In order to be sure that he does not commit this terrible sin, the following points are valuable to keep in mind:

1. The director must be thoroughly prepared and know exactly what each scene is to be, how it is to be acted, and in what order he wants them taken as well as their finished order. This is necessary in order to prevent delay which will absolutely ruin the enthusiasm of an amateur troupe.
2. The director must keep calm—bellowing through a megaphone and tearing hair will not make for more natural performances.
3. The Director should not try to demonstrate the parts for others lest he get merely a very poor imitation of his own not too competent acting. The situation and action should merely be explained to the performer and then his imagination should be allowed to function. This is especially true when working with children.
4. The director should be always on guard against "emoting" and should insist upon smooth slight gestures made with deliberation. Quick nervous movements and sweeping arm gestures do not set well with the moving picture camera.



"The Campaign Cigar"

Advanced Medal Print

Wm. O. Yates

■ "The Campaign Cigar", by Wm. O. Yates, is a splendid character study, sympathetically seen, perfectly spaced, and nicely modeled. The technical data does not disclose whether this shot was made indoors or not but judging from the lighting we are quite sure that it was made out of doors. In this connection notice how important a part the delicate adjustment of the position of the head with respect to the light plays in the success of the picture. Imagine how much vitality and interest the face would lose, for example, if the touches of light which now appear on the eyebrows were absent. It is just such subtle, deft, touches as this (in lighting, in posing, in expression, in camera angles, or in composition) that lift a picture out of the ordinary. The important lesson for the amateur is that these things must be visualized before the exposure. After exposure it is possible to accent, subdue, or trim, but all of the important elements of the picture are fixed with the click of the shutter. A large percentage of the prints received in this competition disclose that the makers are too concerned with after manipulations; that they have yet to realize that the picture is made in the camera, not in the darkroom or on the retouching desk. Because the process is so often abused we always feel called upon to call attention to good paper negative technique. Observe that both textures and gradations are well maintained.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Graflex; $8\frac{1}{4}$ " Steinheil; $1/30$ th sec. at F:6.3 on S.S. Pan, cut film, in Metol; paper negative on E.K. P.M.C. #5; Solar Bromide in M.Q.

**Second Award
Advanced Class**

■ How many times have you felt, just as Mr. Rothstein looks, in this picture. All set to make the masterpiece of the century, with thrills and chills chasing each other up and down your spine, for fear that you will miss just the right instant for making the shot. It's a great feeling and Mr. Muller has recorded it in this picture to perfection. In spite of the title this is more than an informal portrait of a well known photographer; more even than a good shot of that photographer in action. What it really is, is a picture showing how it feels to take a picture, and it would not be amiss to bring that out in the title. We have been watching Mr. Muller's work with great interest for some time now and feel that he is steadily assuming a more and more important position in American Pictorial Photography. To no small degree he has achieved a synthesis of the "old" and the "new" in photography. That is to say, that in the work of this individual we find a reconciliation of the conflicts which exist between the two dominant schools of the day, insofar as that lies within the realm of possibility. He retains the rhythmic, dynamic qualities, the interest in subject matter, the emotional content, that many observers find lacking in the work of the Pure school: at the same time his prints disclose a clarity

(Continued on Page 142)



"Fred H. Rothstein"
John Muller



"Rue St. Cecile"
W. P. Grayston

when an attempt has been made to enhance aerial perspective by dodging.
Data: 8x10" Century Universal; 18" Voigtlander; 1/5th sec. at F:8 on E.K. Portrait Pan., in Pyro, on a dull day with a light fall of snow; Defender Veltex F printed through back.

**Third Award
Advanced Class**

■ In "Rue St. Cecile" we find an excellent expression of a cold bleak wintry day, whose chill atmosphere is so uninviting that all except a few unfortunates remain indoors. The large masses of light and dark are balanced with real sensitivity for graphic values and the horse and wagon are placed just right to assume their proper share of importance in the picture. If the horse and wagon were brought further forward they would soon begin to dominate the landscape, to the detriment of the picture, and if they were moved back, detail and form would be lost and the unit would disturb the eye because it would be difficult to recognize. All of which shows that in pictures at any rate there is one right place for everything. Although it is not particularly evident in our reproduction the picture has a really beautiful recession of planes. The transition from dark to light is smooth and even with none of the jumps that are so often found in amateur work

**Fourth Award
Advanced Class**



"Winter on the Creek"

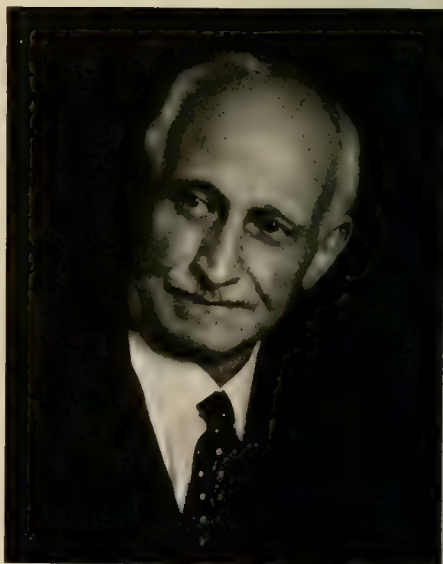
E. W. Blew

ing of tree forms as almost solid black in the print. This fault appears so often because of the natural tendency to hold down the exposure because of the brilliance of the snow. It is well to remember that for subjects of great contrast the proper rule is to give full exposure (exposure for the shadows) and restricted development, (development for the highlights). Conversely, for subjects of little contrast give a minimum of exposure (expose for the highlights) and very full development (development for the shadows). For decades many photographers have been thoughtlessly mouthing the first rule as all-inclusive, ignoring the fact that an exposure-development rule is meaningless unless it takes account of the scale of the subject. Because of the high key of the lower corners, which is obviously unavoidable, a black border would help this print. No data.

**Fifth Award
Advanced Class**

■ One could hardly ask for a nicer job of modeling than is to be found in this picture. Mr. Heymann has also been quite successful in bringing out the characteristics of his sitter. We see in this face a kind, tolerant, well balanced emotional make up, combined with a keen intelligence. There are times when it is possible to justify a completely disembodied head, the picture of Havelock Ellis which won the Pirie MacDonald award for 1934 is a recent instance which comes to mind. (This may be seen in both the Year's Photography, and Photographs of the Year). However when such treatment is adopted, it seems to us that the disassociation must be complete for if it is not the failure to distinguish shoulders and body from the background appears as a technical fault. We feel that this picture is subject to that criticism, and would like to see more detail in the coat so that the shoulder lines would be slightly evident and not fade into the background.

Data: 11x14" Studio; 14" Wollensak; one 1500 W Ventlight and reflector; 1/2 sec. at F:8 on 5x7" E.K. Port. Pan., in A.B.C. Pyro; film positive by contact on E.K. Com'l. Matte; paper negative on E.K. P.M.C. #2 normal, projected through back, in D-74; final print on Agfa Brovira soft, in Amidol.



"Adolph Dernburg"

Lionel Heymann



"Skylight"

A. H. Lomax

Amateur Medal Print

■ This picture displays a good deal of originality in its conception and arrangement, and from it we may learn an interesting lesson in composition. That is we may demonstrate to ourselves the great strength which dark areas at the edges of a print exert in keeping the eye within the picture space. Cover up the dark lines at the top and left side of the print and notice that with these eliminated the composition instantly falls apart and the eye runs directly out of the picture at the upper left. When we observe the great directional force which the figure and the broom exert toward the upper left corner we further realize the strength of these dark areas at top and left in limiting that force. Obviously the picture would be more in conformity with conventional composition if the figure and broom were both moved one window space to the right. As long as the picture holds together in its present form this is not desirable for such a change robs it of a part of the strength, movement and action, the verve, which it now possesses. By attenuating the action into the extreme corner of the print that action is made more evident and strong. There is no reason to dilute it by modifying the arrangement.

Data: 3x4 cm. Foth Derby; 1/50th sec. at F:9, by daylight, on S.S. Pan., in D-76; Gevaert Novabrom XV print.

MARCH, 1935



"Mike" Johanna E. Heim

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " R.B. Auto-Graflex; B & L Tessar; 1/195th sec. at F:16, on E.K. Portrait Pan., in D-76, with K2 filter; 3 P.M. in bright sun; Defender Velour Black DL, in Amidol.

Third Award Amateur Class

■ All those who are seeking examples of what is sometimes called "beauty of line" are referred to the utterly delightful curving lines of this lovely profile. Observe also how subtly these curves are echoed in the nicely shown hair. We feel that this picture gives real evidence that Mr. Oliver is making definite progress in his work. Not only did he see and appreciate the real beauty of this profile, but he also had the technical knowledge to present it to the best advantage. The lighting shown here is far more pleasing to us, especially when delicacy is desired than the so called "line lighting" which we see so often. It is important to notice that a light behind the figure, directed on to the background is an essential part of this lighting. Without it the sense of relief from the background, the feeling of roundness in the head would be lost. As a matter of fact a large percentage of amateur portraits whatever the lighting scheme, suffer in this respect, and a great many of them could be greatly improved by the use of a small light in the manner described above. A minor defect is the loose strand of hair near the top of the head which slightly interrupts the sweeping line of the head. If it were our print we would mount it with a narrow black border.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Butcher Popular Pressman; 7" Aldis; 1/15th sec. at F:3.4, on E.K. S.S. Pan., in DK-76; by daylight with spot directed on background; Defender Velour Black I, in M.Q.



"Miss Fraser" Don K. Oliver

Fourth Award

Amateur Class

■ Although it is hardly a new thing to photograph glassware of this kind we feel that Mr. Davis has achieved a fair degree of originality in the organization of his forms. A most interesting composition results. We cannot see, however, why the form in the background is not more strongly shown. It is distinctly necessary to the composition for without it we have little more than a vertical and a horizontal form with little or no connection between them. Of course it is necessary that the glassware in the background diminish in strength in order to maintain perspective, and Mr. Davis was apparently aware of the fact that transparent objects of this kind have a bad habit of ignoring the rules of perspective by insinuating themselves into the foreground and vice versa. Consequently he took particular pains to definitely establish his receding planes, and in that respect he was entirely successful. We feel however that because of the importance of the lines in the background object in the composition as such that it needs to be more strongly shown. We do not mean that it should be as strong as the foreground objects. What is primarily desired is just a little more strength in the curving line which cuts across and behind the tall stem near its top.

Data: Leica; 50mm Hektor; with #3 front lens; 5 secs. at F:12.7, on Perutz Perseno, in Buffered Borax; lighted from above and behind with one 75W lamp; Gevaert Novabrom K32.



"Glass Pattern"

Leonard Davis

Fifth Award

Amateur Class



"Winters Archway"

G. Anderson

■ This print will be included in Group IV of the Camera Craft Traveling Salons, which starts on its rounds in March and moves first through Divisions 2, and 5. When it reaches your club study it carefully for its truly superb technical beauty. Technically beautiful it is, but we cannot say that its pictorial qualities aside from that are particularly evident. Why? Obviously, Mr. Anderson has carefully studied his composition and has even taken the trouble to work in the lowest of the small branches at the left side of the large tree in order to preserve the circular symmetry of this tree as a frame for the picture. This working in is well done, is desirable from the standpoint of composition, and shows that Mr. Anderson appreciates the requirements of the picture. It seems to us that the picture has three weak points, all of which are closely related. We haven't the space to discuss them in detail here but here someone will be kind enough to take

them up in the Correspondence Dept. next month. They are: Lack of a leading line

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Monthly Competition

Contributing Clubs

Amateur Camera Club of Buffalo	Hartford County Camera Club
Artisans Camera Guild (Los Angeles)	Japanese Camera Club (San Francisco)
Bakersfield Camera Club (Calif.)	Los Angeles Camera Club
Baltimore Camera Club	Miniature Camera Club of Oakland
California Camera Club	Montreal Camera Club
Camera Club of Ottawa	Norfolk Photographic Club
Camera Club of Richmond (Va.)	Photographic Society of San Francisco
Camera Club of Syracuse Y.M.C.A.	Pictorial Photographers of America
Cleveland Photographic Society	Reading Camera Club
East Bay Camera Club (Oakland, Calif.)	Saginaw Camera Club
Erie Camera Club	Schenectady Photographic Society
Fort Dearborn Camera Club	Telephone Camera Club of Manhattan
Golden Gate Leica Club, (San Francisco)	Washington (D.C.) Pictorialists
Hamilton (Canada) Camera Club	

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class: Wm. O. Yates, for the Erie Camera Club; Lionel Heymann, for the Fort Dearborn Camera Club; E. W. Blew, for the Los Angeles Camera Club; W. P. Grayston, for the Montreal Camera Club; and John Muller for the Pictorial Photographers of America.

The following won points for their clubs in the Amateur Class: Johanna E. Heim, and Don K. Oliver for the California Camera Club; A. H. Lomax, and Leonard Davis, for the Hamilton Camera Club.

Standing of Clubs

Large Clubs Advanced Class	Large Clubs Amateur Class
Los Angeles Camera Club 10	California Camera Club 7
Camera Club of Ottawa 9	Photographic Soc. of San Francisco ... 7
Fort Dearborn Camera Club 8	Los Angeles Camera Club 3
Photographic Soc. of San Francisco ... 4	Camera Club of Ottawa 1
Pictorial Photographers of America ... 4	Schenectady Photographic Society 1
Montreal Camera Club 3	
American Soc. of Cinematographers ... 1	
Small Clubs Advanced Class	Small Clubs Amateur Class
Erie Camera Club 5	Washington Pictorialists 9
Japanese Camera Club 1	Hamilton Camera Club 7

(Continued from page 137)

of line, tone, and texture; a respect for his medium; by which we mean an all-round technical excellence, which constitute a major part of the virtues of the newer groups, and that has seldom been consistently maintained by workers in the Romantic vein. If this be true Mr. Muller's work stands as one sign post pointing a way for the future, and his pictures deserve the serious study of those who are sincerely seeking an answer to that continually perplexing question: what is Photography?

Data: 4x5" Graflex; Zeiss Tessar; 1/50th sec. at F:8, on Defender X F Pan., in M.Q. tank, with K2 filter; Veltura Q in D-72.

(Continued from page 141)

which will carry the eye into the snow-covered house which should be the center of interest in this composition. The large tree is too interesting, too strong to act as a frame. It insists upon being more than that, and constantly pulls the eye back, preventing it from going into the picture. Lack of aerial perspective caused by using a strong filter on panchromatic material.

Data: 3¼x4¼" Graflex; 7" Dagor; 1/20th sec. at F:16, with four times filter, on E.K. Com'l. Pan., in D-76; 8 A.M. in Feb. by weak sunlight; Defender Velour Black E.L., in M.Q.

An explanation of the function and rules of these competitions will be sent free on request, or they may be found on Page 600 of the December 1934 issue.—Ed.

Advanced Competitors

Edward Alenius, A.R.P.S., Jamaica, N.Y.
 William H. Allen, Syracuse N.Y.
 Edward Balford, Baltimore, Md.
 Shanti Bahadur, Cleveland, Ohio
 C. D. Beer, Los Angeles, Calif.
 H. C. Benedict, Berkeley, Calif.
 Edna R. Bennett, Hollywood, Calif.
 *E. W. Blew, Whittier, Calif.
 W. H. Boyes, Montreal, Canada
 J. M. Bridges, Brooklyn, N.Y.
 Hal A. Brown, Los Angeles, Calif.
 J. Campbell, Montreal, Canada
 Harry R. Chase, Cleveland, Ohio
 Christian Studios, Spokane, Wash.
 Charles Clayton, Jr., Baltimore, Md.
 P. J. Croft, Montreal, Canada
 W. Wright Crowder, Baltimore, Md.
 Fred E. Crum Spring Valley N.Y.
 Evelyn Curtis Oakland, Calif.
 M. K. Curtis, Oakland, Calif.
 Bruce W. David, Cleveland, Ohio
 Christine B. Fletcher, San Francisco, Calif.
 *W. P. Grayston, Montreal, Canada
 Arthur W. Grumbine, West Lawn, Pa.
 Irving Haines, Tacoma, Wash.

Johan Helders, Ottawa, Canada
 *Lionel Heymann, Chicago, Ill.
 N. S. Horton, Montreal, Canada
 H. F. Kolls, Ottawa, Canada
 Russell King, Montreal, Canada
 T. J. Lannon, Cleveland, Ohio
 Harry Luscumbe, Los Angeles, Calif.
 Andrew C. Martin, Hamilton, Canada
 John C. Modde-jonge, Cleveland, Ohio
 *John Muller, New York, N.Y.
 John R. Murray, Cleveland, Ohio
 Nat. Norman, New York, N.Y.
 George H. Phillips, North Hollywood, Calif.
 Clark H. Rutter, Grove City, Pa.
 John Schiede, Jr., New York, N.Y.
 R. Owen Shrader, Los Angeles, Calif.
 John Steinke, Cleveland, Ohio
 K. Wakasa, San Francisco, Calif.
 Kingdon Weller, Los Angeles, Calif.
 H. E. West, Washington D.C.
 Claude J. Williams, Los Angeles, Calif.
 Leo Woloshin, Cleveland, Ohio
 *Wm. O. Yates, Erie, Pa.

*Denotes prize winners.

Amateur Competitors

Raymond W. Ager, Berkeley, Calif.
 *Gustav Anderson, Norfolk, Va.
 W. F. C. Anderson, Ottawa, Canada
 Alex Andrisunas, Chicago, Ill.
 G. D. Aydtlett, Norfolk, Va.
 Helen Louise Barham, Nashville, Tenn.
 L. E. Berriman, Pasadena, Calif.
 Heinz Bertelsmann, Berkeley, Calif.
 Wm. Edwin Booth, Richmond, Va.
 R. L. Bulger, Baltimore, Md.
 Roland Calder, Berkeley, Calif.
 Edward Canby, Dayton, Ohio
 Lloyd J. Cartwright, Saginaw, Mich.
 John A. Carvelas, Brooklyn, N.Y.
 Alfred Cherkauer, Buffalo, N.Y.
 K. H. Choy, Bakersfield, Calif.
 Dewey Clark, Quincy, Ill.
 Margaret B. Clarke, San Francisco, Calif.
 Raymond B. Colterd, San Francisco, Calif.
 Jackson G. Cook, New York, N.Y.
 M. V. Cousins, Bethany, La.
 Homi K. DadyBurjor, Bombay, India
 *Leonard Davis, Hamilton, Canada
 Lloyd De Groodt, Dallas, Texas
 A. B. De La Vergne, Denver, Colo.
 R. C. Demaree, Grand Canyon, Ariz.
 J. Demosthenes, San Francisco, Calif.
 Paul J. Des Jardins, Hartford, Conn.
 H. Douthwaite, Montreal, Canada
 Hideya Ebata, Singapore, S.S.
 Wilson D. Ellis, Berkeley, Calif.
 John L. Filson, Oakland, Calif.
 George Forster, Jr., Long Beach, Calif.
 Helen M. Forster, San Francisco, Calif.
 Mortimer Friedman, New York, N.Y.
 Joseph Gayman, Los Angeles, Calif.
 Ernest L. Gooden, Washington, D.C.
 Harry E. Goodwin, Washington, D.C.
 Gilbert Harris, Los Angeles, Calif.
 *Johanna E. Heim, San Francisco, Calif.
 Ernst F. Henry, Washington, D.C.
 Erwin Hermann, Buffalo, N.Y.
 A. L. Hill, Los Angeles, Calif.
 Brooks Hill, Neosho, Mo.
 H. Glen Hogue, Ellensburg, Wash.
 J. Albert Hultquist, Washington, D.C.
 Herbert Jackson, Chattanooga, Tenn.
 William Karsten, New York, N.Y.
 Miss Thelma R. Kent, Christchurch, N.Z.
 P. A. Kinsey, Boyertown, Pa.

Lloyd E. Knutson, Colorado Springs, Colo.
 Howard Kurz, Los Angeles, Calif.
 Virgil S. Land, Chicago, Ill.
 C. Stanton Loeber, San Francisco, Calif.
 *A. H. Lomax, Hamilton, Canada
 Alfred B. Loop, Bellingham, Wash.
 P. H. Loope, Schenectady, N.Y.
 Louis Luh, Washington, D.C.
 W. D. McClennan, Ottawa, Canada
 W. J. McCune, Schenectady, N.Y.
 Albert A. Meinhold, Buffalo, N.Y.
 M. A. Miner, Syracuse, N.Y.
 Bob Minnick, Los Angeles, Calif.
 George S. Nalle, Austin, Texas.
 *Don Kirby Oliver, San Francisco, Calif.
 Bob Parker, Buffalo, N.Y.
 Harry E. Perl, Oakland, Calif.
 E. H. Rainford, San Francisco, Calif.
 Frank X. Reilly, Pottsville, Pa.
 N. H. Schammel, Berkeley, Calif.
 R. E. Schoenberger, Shaker Heights, Ohio
 Lawrence Schreiber, Cleveland, Ohio
 J. W. Schuler, Akron, Ohio
 L. H. Sharo, Schenectady, N.Y.
 P. J. Sheppard, Montreal, Canada
 John G. Shortridge, San Francisco, Calif.
 J. P. Skillen, Hamilton, Canada
 J. S. Slover, Los Angeles, Calif.
 Warner Smigelow, San Francisco, Calif.
 Eugene Smith, Pasadena, Calif.
 Eugene Smith, Wichita, Kansas
 Leon C. Smith, Washington, D.C.
 J. O. Sprague, Syracuse, N.Y.
 Frank Spry, Syracuse, N.Y.
 Miss Lolo Stinde, St. Louis, Mo.
 H. M. Takahashi, Berkeley, Calif.
 George O. Timanus, Philadelphia, Pa.
 Stanley R. Truman, M.D., Oakland, Calif.
 H. P. Ullman, Beverly Hills, Calif.
 Charles T. Vandervort, Palo Alto, Calif.
 R. Von Rosenberg, Los Angeles, Calif.
 B. Russell Whitaker, Jr., Ithaca, N.Y.
 Earl A. White, Manteca, Calif.
 Morgan W. Wickersham, Washington, D.C.
 Lewis Willman, Washington, D.C.
 Wm. E. Wing, San Francisco, Calif.
 Thomas L. Wright, Hollywood, Calif.
 T. W. Wright, Columbus, Ohio
 H. M. Zalmanoff, Syracuse, N.Y.
 *Denotes prize winners.

Correspondence

Our New Cover

Gentlemen:—

We wish to compliment the person or persons responsible for the new cover on the **Camera Craft** for Feb. It is a radical change and one for the better.

While it has just been received by us the customers that have seen it so far have all remarked about the new appearance, and believe the reaction will be for a bigger and better year for **Camera Craft**.

With compliments to the thinker and doer of the new cover idea. We are,

Yours truly,

H. Luhn,

San Francisco Camera Exchange.

For sometime we have felt the need for greater simplicity in our cover design. From this time forward **Camera Craft** will use two cover layouts, basically the same but slightly different. When a horizontal picture is selected the February lay-out will be used; with a vertical picture the form will be altered to that seen on the cover of this issue.—Ed.

Competition Comment

Dear Mr. Young:

The pontifical air emanating from some of the Correspondence you print frightens me, but not enough to silence me. Besides, may it not prove to be an amusing and unusual interregnum in your dreary day of dealing with the big-shots and the yearning-to-be-big-shots of our art to hear from one who has no more pretensions than Mortensen's lovely Youth has clothes? No pretensions; but a few, a very few convictions, an ideal or two, and some standards by way of respectable baggage? In short, an out-and-out amateur?

The whole of **Camera Craft**, since you've made it the vital thing it is, might well serve as the text for pages of detailed encomiums. But we'll pass that now; you know already I think it's the magazine par excellence in its field. In passing, however, let me say that your uncluttering of the cover for February is a distinct

improvement, in my opinion; that Doo-little and Mortensen are a joy, as they always are; and that Mortensen's complete annihilation of Mr. Bland is top-hole in good-humored rebuke.

It is of the competition prints and your comments thereon I want to speak. As I see it, Ashton's Fire Fighters is not a "splendid" picture, "just as it stands." You recognize its weakness, and your remedy is the addition of another figure. My remedy is surgery. Trim $1\frac{1}{2}$ " from the bottom, as it is reproduced on the page, thus discarding most of the fire hose (this is not a picture of fire hose but of fire fighters!) and $1\frac{1}{2}$ " from the right side, and we get close to the principal interest, retain all the atmosphere, increase strength, improve composition. The diagonal line at the right formed by the stream of water then becomes disturbing? Let it. In an unposed picture such as this something usually has to be sacrificed.

Goodwin's The Barker—same story. Trim 2" from the bottom, discarding most of the strongly competing sign boards on the ticket booth, leaving enough, however, to suggest unmistakably the man's occupation; and trim 9/16" from the right side, and we have The Barker himself in a stronger position—a better picture, by far.

I wanted to say something about Lyon's triangle, Kell's bewhiskered Sikh, La Vergne's sleek lady, and Kelly's splotch of sunlight—but space is running out.

What an interesting department Competition Comment would be if your readers would attempt articulateness oftener! I like to read what the Brass Hats say, but I'd like to see more letters from the army of amateurs to whom **Camera Craft** must be a stimulant.

Yours sincerely, though a little frightened still,

Harold W. Hawk.

Camera Craft heartily seconds Mr. Hawk's desire for a much fuller reader participation in the discussion of this department.

—Ed.

Kudos for Mr. Doolittle

Dear Mr. Young:

No, this probably won't hop the Rockies and reach you soon enough to be considered for the March issue. Anyhow, here's my congratulations, in carload lots, for using Mr. Doolittle's unique comments on The L. A. Eighteenth International.

'Twas a WOW—and I failed to send this sooner only because I spent too much time vainly searching the Unabridged Dictionary of American Slangage, New Edition, Much Improvised and Reproved, for a bigger, better and newer word. But I guess they simply don't make 'em that way.

Anyhow, it makes a fellow feel young again to find somebody dropping silk hat criticism and citing the entertaining angles. Jimmy deserves a controlling interest in the commendation for writing that way in the first place.

Of course, it must have been quite a let-down for anything so self-important as photographers—yes, I'm one, or try to be. But especially for the saloo—aw, excuse it, please, I always was kind of unhandy with my French and things—anyway, I guess some of the salon entrants got quite a jolt from it. But in the last year or two I've seen enough growing conceit among some of our Masters of Creative Pictorialism—oh, yeah?—that it was getting about time for a puncture.

Speaking of the style of writing—once I worked on a newspaper that seemed practically consecrated to viciously bitter attacks on somebody or something—and, about half the time, was found wrong and got roundly razed by the brighter readers. Well, after a couple of months I was notified to move along. Couldn't seem to get brutal enough, or something. At the next stop the city editor asked me, one day, where I was from, and why, and, on learning, remarked:

"Well, we've found out a long time ago here that ridicule, applied gently in moderate doses, without heat and even with a little salve at the end, is about the best way to cure up these mental and moral infections."

I've been speculating lately on whether

Jimmy, who writes something like a good reporter on a feature assignment, ever worked for the latter newspaper.

Regarding details—does he take Will Mortensen for a nice little ride? Whew! And other words to that effect. Which ties right in with another thing in the February issue, about which I want to submit a little correction, if you don't mind.

I, too, rather liked Merritt Gerstad's print in the competition. But you folks remark, concerning it, that humor is rare in photography. Really, you're just a little out of line. There's plenty of humor—too darned much of it, as Jimmy seems aware. The trouble is, most of its unconscious humor.

As for Mortensen—yes, lots of his work is mighty good, and I'm not jealous, but when he does slip a little, he's about THE outstanding example. I hope Will doesn't get mad over that; it's typical of artists, as well as Artists. But, for example:

Back in January he used quite a bunch of space telling how a personality should DOMINATE, over a SUBDUED, and APPROPRIATE background, in "out-door portraiture." Right, on the opposite page he busted loose with a reasonably natural nude study occupying a small center spot; the rest of the page was taken up with an impressive view of impending mountain storm. While incomparably better, it looked about as much like natural photography as the alleged etchings that wander onto our dime store counters.

Well, was that funny, or was it merely funny?

Anyhow, a dozen or so friends, including one or two self-styled pictorial photographers, have looked at that picture and asked me whether I had any idea why he stuck a picture of a nude into it. I haven't. And the last time I was on top of even a moderate-sized mountain, last September, there weren't any girls wandering around undressed. It simply isn't being done.

Of course there remains the possibility that Mortensen premeditated that self-contradiction as a gentle satire meant to be over the heads of us ordinary folks. But from here it looks pretty faint.

However, I must be getting back to my Jimmy. He starts by speculating on what might occur if he had a literary following. Well, you're hereby authorized to notify him officially that from now on out he has a "public" of at least one. Further, I'll be delighted to serve as chairman of the membership campaign committee if ever he decides to organize and make a steady job of mopping away some of our cherished but rather dusty hallucinations about art, Art, and what connection they have, if any, with photography.

From what he says about a lot of the stuff in the salon, I know I'd like lots to see it, but I'm out of form, as it were, with my hitch hiking.

Hope all this doesn't start too many fist fights, especially any involving me. It's all sincerely meant, just as stated, even though I've never had much luck at getting most folks to take me seriously except by trying to be funny.

W.A.R.D., Signing off.

F. C. Ward.

Camera Craft Traveling Salons

Dear Mr. Young:

This seems to be the first opportunity I have had to write to you about the Camera Craft Traveling Salon which we had here about a week ago and forwarded to Kodak Park Camera Club, Tuesday morning, January 29, by truck. I do want you to know, however, that we enjoyed this exhibit perhaps more than any other one we have received to date.

In addition to letting you know that the group arrived safely and was forwarded, we also want you to know of one of the recent activities of the Raytar Camera Club. On Monday evening, January 28, our Club acted as host to the following city clubs and groups, Gas & Electric Camera Club, Rochester Camera Club, Graflex Camera Club, Mechanics Institute

Such a joint meeting established some-camera Club, Hawk-Eye Camera Club. what of a precedent locally but we are firmly convinced that the idea has much merit and should be extended at every opportunity. The occasion was the visit to our plant for about two weeks inten-

sive study of Mr. Arthur Q. Morrison, now connected with our Chicago Office (Bausch & Lomb Optical Co.) Mr. Morrison gave an illustrated lecture of some of his work in Egypt with the Oriental Institute Expedition sent out by the University of Chicago. As official photographer of the Expedition, Mr. Morrison, promised and in fact, came through with a very fine and interesting talk on his experiences. About 115 persons attended and this would have been greatly increased had we not been cramped for time in reaching everyone.

We were cramped for time, mainly because we wanted to make use of the Camera Craft Traveling Salon and have it on exhibit that evening for the benefit of those in attendance. . . .

For Mr. Morrison's talk he used the title "Photography, Archaeology,—and a molasses tank boat". Refreshments followed the lecture. . . .

Personally, I feel that the Traveling Salon will prove a strong incentive for local workers to participate in the future.

We are looking forward to the next group in the fall.

Sincerely,

The Raytar Camera Club,
W. M. Gardner.
President.

Dear Sir:

The Camera Craft Traveling Salon was received in good condition, and shipped on February 2nd to New Kensington, Pa.

Many of our members and their friends viewed the pictures on our walls during the week of January 27th. A special meeting was called for Thursday evening. The attendance was sixty-two persons. At this meeting the criticisms were read and the prints discussed by the Print Director.

Great interest was shown in the exhibit, and we request that our club be included in the schedule of other sets for any dates available.

Thanking you for the opportunity to study these pictures we remain,

Very truly yours,

Wm. O. Yates, Print Director
Erie Camera Club.

CAMERA CRAFT

Dear Mr. Young:

The Camera Craft Traveling Salon is now with us, and we desire to thank you for this great opportunity to see the wonderful prints in this collection. We certainly appreciate the large amount of work **Camera Craft** has done to make this exhibit into such a fine display of the best photography.

Your previous letter was received regarding the schedule of the Traveling Salons, and we are glad to know that we shall not be omitted at any time.

Again thanking you, we remain,

Sincerely yours,

J. O. Sprague,

Camera Club of Syracuse
Y. M. C. A.

The Amateur And His Troubles

Cutting Circular and Dome-Shaped Masks

A great convenience is the facility for making circular or dome-shaped cut-outs for use as masks. Some are very expert with the scissors but even most careful work, closely examined, will reveal small irregularities, the result being unsatisfactory for the purpose of a printing mask. With ordinary care the following method can be relied upon for machine-like results.

First we shall require a small block of wood about one and one-half inches square by one inch thick, and a red devil glass cutter. To one side of this block the glass cutter is securely bradded in upright position with the wheel projecting below the bottom just sufficient to cut cleanly the paper used. This last should be tested carefully before the fastening is made. For smooth operation the wheel should not project more than necessary. As the cutter must be firmly attached, with no lost motion, it is best, before bradding, to fit it snugly in a recess cut in the block. This provides the cutting tool. In use the block rests flat upon the surface, holding the glass cutter in fixed position and the projecting wheel cutting the paper beneath.

Now for the cutting board select a good, smoothly planed block of the required size for the work contemplated and cover the top surface with either a sheet of tin or zinc. Tacks at the extreme corners will be sufficient to hold this in place. To be on the safe side



The Cutting Device

it is better to provide a board of good generous size. Next cut the head from a rather thin finishing nail, point the end so cut and drive this into the board at the center. That finishes the board.

Now to produce a smoothly cut circle this cutter of ours should be so used that at all points on its journey it will maintain a right angle position to the diameter. Also we shall wish to provide for adjustment as to size. These points are covered as follows: The side occupied by the glass cutter we will call



*Illustrating a use for the
dome-shaped mask*

the front. Now on either side of the block, about one-quarter of an inch from the bottom, drive brads part way in. Take a piece of thin copper wire—it is very flexible and usually stands a lot of bending—take a turn around one of the brads, then forward around the peg on the board and back to the second brad, making a sort of triangle effect. These wire extensions to be of equal length but can easily be regulated to size of circle wanted.

Adjustments for exact work can be arranged by marking a short line on the tin with the wheel and making measurements from this.

In operation hold the paper firmly with one hand and grasp the cutter with the other, exerting a downward and outward pressure on the block. Always make a complete cut without stopping, or in

other words, complete the cut with continuous motion of the cutter. It is usually fatal to stop part way around and begin again. The easiest way to manage this is to use a small table and walk around as the cut is made.

Concerning Extra Lens Board

Sometimes when we use a short focus or wide-angle lens on a long extension camera the bellows become so compactly folded as to make it difficult to operate the rising and falling lens movement. In a similar case it may happen that when the lens is raised the bellows buckle in such a manner as to cut the image on the film. But in any case when operating under these conditions one will generally find it convenient to use an extra lens board with lens mounted off center. Such an arrangement permits the bellows to remain pretty nearly in normal position and so facilitates the work.

A lens board is not at all difficult to make and while not matching the camera finish, does very well in the way of an extra. For the material use selected pieces of cigar box cedar. It will be noticed that the back of our lens board should be rebated around the edges, so we begin by cutting two squares from the cedar wood, one of which will be the required amount smaller than the other to form the rebate. The exact measurements can be taken from the regular lens board. Now glue one side of each square, place them together with grain of the wood crosswise to prevent warping and allow to dry under pressure—a flat iron is good. That is all except for the opening which in this case will be somewhat off vertical center. The circular cut-out is first marked with a pair of steel dividers, the size of course being regulated by the brass ring. The cut can readily be made in this comparatively soft wood with a good sharp pocket knife (it is only fun if you like to whittle) up to the line marked. If you have a brace and bit, a hole might be bored smaller than full opening and then finished with the knife.

Now when attaching the ring to the board it must be so placed that the

shutter will be upright on the last turn when screwed in. I confess I had at first all kinds of trouble guessing at this problem and many misplaced screw holes. However, in the absence of a better way try this. Before being attached screw the ring firmly in place on the shutter. Then place the ring flange in the open-

ing of the lens board and, with shutter held in correct position, mark with the point of a knife or awl both the ring and the board, these marks, of course, to coincide. The ring is now removed from the shutter and, with position marked, screwed accurately in place.

—Charles A. Harris

Club Notes

Forthcoming Exhibitions

- **Twenty-Seventh Scottish National Salon.** Address Hon. Salon Secretary, 27th Scottish National Salon, 6 Hilary Crescent, Ayr, Scotland. Entry fee three shillings for six prints, closing date March 9th, 1935. April 20 to May 4, 1935.
- **Thirtieth Annual Photographic Exhibition, City of London and Cripplegate.** Address Hon. Exhibition Secretary, J. R. P. Hilliard, 86 Downtown Ave., Streatham, S. W. 2, England. Entries close February 11, 1935. Entry fee one shilling per print. March 11 to 16, 1935.
- **Second International Salon of Photography of Antwerp.** Address J. De Groote, 19 Van Heystveltstraat, Deurne- Antwerp, Belgium. Entries close March 15, 1935, limit six prints, entry fee 2 Belga. Prints may be unmounted. April 27 to May 12, 1935.
- **First Philadelphia Annual Salon of the Miniature Camera.** Under the auspices of the Miniature Camera Club of Philadelphia. Address Salon Secretary, Miniature Camera Club of Philadelphia, 1724 Chestnut St., Philadelphia, Pa. Closing date March 30, 1935, entry fee \$1.00, limit 4 prints. Photographs must be made with camera making a negative not larger than $2\frac{1}{2} \times 3\frac{1}{2}$ inches. April 19 to May 6, 1935.
- **14th International Salon at Brussels.** Address M. Maurice Broquet, 77 rue du Sceptre, Brussels, Belgium. Closing date March 15, 1935. Entry fee 5 Belgas. May 7 to June 9, 1935.
- **The Second Lancaster and First International Photographic Salon.** Address Irving D. Hershey, 119 N. Pine St., Lancaster, Pa. Closing date March 31, 1935, entry fee \$1.00, limit 4 prints. May 6 to 18, 1935.
- **Third Salon at Barcelona.** Address, Secretary, Agrupacio Fotografica de Catalunya, Duc de la Victoria, 14, pral, Barcelona, Spain.
- **Second Annual "Canadian Salon of Photography".** Under the auspices of the Hamilton Camera Club. Address Secretary, J. P. Skillen, 44 Paisley Ave., N., Hamilton, Ont., Canada. All Canadian salon, limit 4 prints, entry fee \$1.00, closing date April 1, 1935. April 15 to 29, 1935.
- **Third Annual Princeton Photographic Salon.** Address Henry Mayer, 84 Holder Hall, Princeton, N.J. Closing date April 5, 1935, entry fee \$1.00, limit 4 prints. April 29 to May 8, 1935.
- **Second International Salon of Photographic Art.** Address Photo Pictorialists of Milwaukee, 772 No. Jefferson St., Milwaukee, Wisc. Closing date April 1, 1935, entry fee \$1.00. May 2 to 16, 1935.
- **Fifth International Salon of Photography at San Diego.** Under the combined auspices of the California Pacific International Exposition, the Camera Enthusiasts and the Camera Pictorialists of San Diego. Address Miss Ruth Kilbourne, Chairman Salon Committee, California Pacific International Exposition, Balboa Park, San Diego, Calif. Closing date May 1, 1935. May 29 to November 11, 1935.
- **Twentieth Annual Exhibition of Pictorial Photography.** Under the auspices of the Hammersmith Hampshire House Photographic Society. Address, The Exhibition Secretary, Hammersmith Hampshire House Photographic Society, Hampshire Hog Lane, Hammersmith, London, W. 6, England. Closing date April 11th. No entry fee, but stamped and addressed label must be enclosed. May 3 to May 12th, 1935.
- **The First International Tokyo Salon of Photography** to be held in the Tokyo Imperial Art Gallery. Address Secretary, Tokyo Salon of Photography, 19 Nakanocho, Azabu, Tokyo, Japan. Closing date May 1, 1935. Entry fee \$1.00. Prints may be sent unmounted. May 24 to June 6, 1935.

■ **Fourteenth Annual All-American Photographic Salon**, conducted by the Los Angeles Camera Club. Address Jas. S. Lawshe, Chairman Salon Committee, 604 Standard Oil Bldg., Los Angeles, California. Closing date May 15, 1935. June 2 to June 30, 1935.

■ **Fourth Annual Boston Salon of Photography**. Under the auspices of the Boston Camera Club. Address Boston Camera Club, 330 Newbury St., Boston, Mass. Closing date May 22, 1935. Limit 4 prints, entry fee \$1.00. June 18 to 29, 1935.

Photographic Society of America

The annual convention of the Photographic Society of America will be held at Pittsburgh April 6th and 7th, 1935. The Convention Committee has arranged an interesting and constructive program. Matters of vital interest to the affiliated Camera Clubs will be discussed. An opportunity will be provided to visit the Pittsburgh Salon, and sight seeing trips to points of interest in the city and its environs will be arranged. Some of the nearer clubs will attend almost "en masse", and it is expected that delegates from all over the United States will be present.

Golden Gate Leica Club Traveling Show

The Golden Gate Leica Club's Traveling Show consisting of thirty prints has been sent to a number of clubs in several states. The club wishes to send it to as many organizations as desire to receive it and is anxious to exchange exhibits whenever possible. Information regarding these prints may be had by writing to John G. Shortridge, 2002 Hobart Building, San Francisco, Calif.

Chicago Camera Club

The March print exhibit to be hung in the print gallery will be from Nicholas Boris, of Cincinnati, and Dr. E. P. Wightman of Rochester.

Enrollments for beginners course in School of Photography will be held on Tuesday morning, March 26th at seven o'clock. The third annual spring term of the School of Photography will be for a term of ten weeks from April 2nd to June 4th inclusive.

New Address for San Jose Camera Club

The San Jose Camera Club announces that its permanent address is as follows:

The San Jose Camera Club
Box 508
San Jose, California.

All communication, regardless of their

nature, should be directed to this new address in the future.

Should you for any reason desire to communicate directly with the chairman of any special committee, Print Director, or Editor, we suggest that you address your envelope to the above address, attention of the party concerned.

East Bay Camera Club

Eastbay Camera Club of Oakland, California, organized in September with a membership of forty, has embarked on a lively program of two regular meetings and a field trip each month. Members' prints are displayed at a monthly competition vying for the annual award, and a speaker of eminence in the photographic field is scheduled for the remaining meeting. Trips to local points of interest complete a well-balanced program cycle.

Mr. William Holgers is president of the club, and Mrs. Evelyn Curtis, secretary.

U. C. Extension Courses

Spring session photography classes to be given by the University of California Extension Division include courses in both San Francisco and Oakland, according to a communication received from Professor Leon J. Richardson, director of the University extension work.

The schedule follows:

For San Francisco: "Photography: Principles and Practice," 803B—starting date, Tuesday, March 19, 7 p.m., 540 Powell St.

"Pictorial Photography," 807, starting date, Thursday, March 21, 7 p.m., 540 Powell Street.

Oakland classes: "Miniature Camera," starting date, Friday, March 29, 7 p.m., 1730 Franklin Street.

"Pictorial Photography," 807, starting date Wednesday, March 20, 7 p.m., 1730 Franklin Street.

Instruction will be given by P. Douglas Anderson, Associate of the Royal Photographic Society.

Japanese Camera Club

The Japanese Camera Club of San Francisco will hold its semi-annual club salon for members on March 15 in celebration of the tenth anniversary of the founding of the organization. At the last club meeting, Jan. 23, new officers were elected. The new officers are: K. Kawaguchi, president; V. Yamakawa, vice-president; N. Matsumoto, treasurer; K. Wakasa, secretary.

New Club

The Jackson Camera Club, of Jackson, Mich., came into being on Jan. 16th with a charter membership of 14. Meetings are held on the third Wednesday of each month and at each of these a speaker is to be heard and a print competition will take place. The club is interested in communicating with other organizations and anyone desiring to take part in their activities should address Mr. Fred Pacholke, Sec., 508 Winthrop Ave., Jackson, Mich.

New Club

We learn that a new Camera Club, name as yet unknown has recently been formed in Colorado Springs, Colo. Seventeen were present at the organization meeting which was held in the home of Dr. E. L. Timmons, who was elected president. Monthly meetings are planned and an exhibition of members work is in the offing. All interested photographers in that vicinity should communicate with Paul Rowden, The Photo-Craft Shop, 218½ East Pike's Peak Ave., Colorado Springs, Colo.

New Club

The newly organized Peoria Photo Forum has gotten off to a splendid start with forty active members, and the following officers. J. H. Sammis, Pres., R. Brown, Vice-Pres., Joe Grey, Treas., F. G. Oster, Sec. These plus S. Fiedler, R. Barrer, and J. Newsom, constitute the Board of Directors. Anyone interested in the work of the club should address Mr. F. G. Oster, c/o the Peoria Art Institute, Peoria, Ill.

\$250 Photographic Contest

"The Home Desirable" announces a contest for photographs of home modern-

ization in which prizes totaling \$250.00 are offered. Photographs should show the project before and after modernization and should be accompanied by a letter describing the project. For full details write to "The Home Desirable, 221 No. LaSalle St., Chicago, Ill., or consult a dealer in plumbing supplies. Closing date Sept. 1, 1935.

Pittsburgh Lecture

Photographers will no doubt universally approve the selection of Adolf Fassbender, F.R.P.S., internationally known pictorialist and lecturer of the Brooklyn Institute of Arts and Sciences, to deliver this year's lecture on photography at the Academy of Science and Art, Pittsburgh, Pa. Mr. Fassbender is at present receiving much fulsome praise for his excellent One-Man Show which was hung at The Camera Club, New York City, during February.

Detroit Minicams

In the February Minicam, bulletin of the Detroit Miniature Camera Club, the president, Wm. Keese, makes comment on the value of the salon as a proving ground of photographic values for the amateur. An announcement is also made of the fact that an educational supplement containing a full twelve months course in photography will be put out by the editorial staff. This course is the result of many requests for detailed, consecutive information covering the major points of practical photography, particularly as related to miniature camera work.

The editor comments on the attendance of the club, it having been many months since the attendance has fallen under one hundred.

The January program was reviewed and the February program was announced as follows: "Humanizing Your Picture" by Edward Beck, Hobby Editor of the Detroit news; and Portrait Lighting, a demonstration by Bill Keese.

Various bulletins were reviewed and announcements of photographic interest were made. Jack Seller's talk on Intensification and Reduction was reproduced in full.

New Club

Palo Alto Camera Club—is a new organization that commends itself to photo-enthusiasts in all San Mateo and upper Santa Clara Counties. (Attention Mr. Robert M. Carmack of the Peninsulan.) For quite some time there has been agitation in favor of a San Mateo County Photographic Organization but a club in the College City is really the logical answer to this much felt need. They have had two meetings and one field trip and although still in the formative stage, are well under way. They will meet the first Monday in each month.

Marquis of Queensbury and Mr. Roberts give them no trouble whatsoever as their gatherings are held in the traffic court at Palo Alto and the dignity of the court lingers even if it does not dampen the enthusiasms that are naturally prevalent in a new club. Mr. John Shortridge of Atherton presides and Al. W. Cross of 333 Kipling Street, Palo Alto, keeps the minutes.

We heartily recommend this new club to every Camera owner on the Peninsula and we urge those interested to join now. There is no initiation fee between now and the first of April.

Camera Club Publications

A surprising number of interesting tips, formulae and wrinkles, appear in the various camera club publications from time to time. The time spent in looking them over will pay dividends in useful information. Particularly good in this respect is the **Orange Camera Club Bulletin**, edited by Mr. George P. Swain. The club's address is, 1 South Clinton St., East Orange, N.J. Those who have seen the marvelous blue tones which Dr. D. J. Ruzicka obtains in his salon exhibits will be grateful for his formulae for obtaining these tones which is given below. We take the liberty of reprinting these from the **Orange Camera Club Bulletin**.

Dr. D. J. Ruzicka's Formulae

For Prints:

Paper, Tuma-Gas.

Developer, Water to make 16 oz.

Sulphite $\frac{1}{4}$ oz. 19 grs.

Carbonate $\frac{1}{4}$ oz. 19 grs.

Aduro! 32 grs.

Develop for 2 minutes at 70° F and time exposure accordingly.

Above quantity will develop not more than 3 11x14 prints.

(We find above developer can be concentrated into 4 ounces of water and used as stock solution, adding 12 ounces of water for use. We also find it desirable to add 1 fluid dram of a 10% solution of bromide to each 16 ounces of developer.) For Blue Tones:

Time exposure on Tuma-Gas to give good brown print with above developer, but develop only $1\frac{1}{2}$ minutes instead of 2.

Fix print and **wash thoroughly**. Print will not tone blue if there are traces of hypo in it.

Tone in, Water to make 13 ozs.

Thiocarbomide 10 grs.

Gold chloride 3 grs.

Sulphuric acid 14 minims

(Above toner will tone about 4 11x14 prints: use until exhausted. Do not delay in adding acid to mixture, otherwise faint opalescence will appear.)

New Club

The first meeting of a new miniature camera club, to be known as the Miniature Camera Pictorialists of Los Angeles, was held Wednesday, December 5, 1934, at which time Mr. Tom J. Hopkins was elected director, and Mr. Robert E. Saltmarsh, secretary.

Meetings will be held on the first Wednesday evening of each month at 942 Westwood Boulevard, Westwood Village, Los Angeles. Membership will be limited and will be by invitation only.

The purpose of this new organization will be to advance pictorial photography with the miniature camera. There will be talks and demonstrations by prominent workers and manufacturer's representatives. Outings will be arranged.

All members will submit one print per month to be judged by a jury selected from the membership. Prints so selected will be held for a permanent traveling exhibit. There will be an international salon of miniature photography, information

concerning which will be forth coming at a later date.

The present membership consists of fif-

teen workers. Correspondence should be addressed to the secretary, 1516 Westwood Boulevard, Los Angeles, California.

Notes and Comments

Full Length Figure Studies by Nicholas Haz at New York Institute

Nicholas Haz, F.R.P.S., has become associated with the New York Institute of Photography.

Mr. Haz lectures on the various phases of pictorialism, composition, modern photography and allied subjects.

The last lecture that was given was "Composition of full length figures with living models".

The New York Institute has for some time been steadily building up those phases of instruction which stresses the aesthetic side of photography, so that its success in obtaining the services of Mr. Haz is cause for congratulations.

As the New York Institute has long been known for the excellence of its technical instruction, the inclusion of similarly complete instruction in the artistic phases, places this course of instruction in the front rank of photographic success.

Any reader who desires any information may obtain it by communicating with the New York Institute of Photography, 10 West 33 Street, New York, N.Y.

New B & H 16 MM. Direct Viewer

The Bell & Howell Film Editor has been greatly improved by the application of a new picture viewing unit, the Bell & Howell Direct Viewer.

With this new unit, the picture image is brilliantly cast upon a translucent glass screen, $1\frac{1}{2} \times 1\frac{1}{8}$ inches in size, where it is clearly visible from a normal sitting position. The picture is studied with all the comfort and freedom from strain that characterize actual movie projection.

16 mm. film is drawn through a scratch-proof channel, in the new Direct Viewer, just as in the former viewing device. The channel has upper and lower plates which are hinged to open wide for inserting and removing film. Another hinge permits the entire unit to be swung back behind the path of the film when rewinding.

Exhibition of Contax Enlargements

"Carl Zeiss, Inc., will have an exhibit of selected CONTAX enlargements at their premises, 485 Fifth Avenue, New York, on February 25th up to and including March 1st, daily from 11 a.m. to 9 p.m. Amateur and professional photography, newspaper as well as scientific work will be represented. This exhibition will interest every photographer and especially anyone working with a miniature camera.

The same exhibit will be held in Boston from March 4th to 7th inclusive, in Buffalo on March 11th and 12th, in Cleveland on March 14th and 15th, in Detroit from March 18th to 20th inclusive and in Chicago from March 25th to March 29th inclusive. Later it will be shown in Philadelphia and possibly in other cities.

Complete information on the equipment with which these photographs were taken and demonstrations will also be given upon request." Further information may be obtained by writing to the above address.

A Correction

In speaking of the new Defender X-F Panchromatic Special Film (Non-Halation Back-coated) on page 101 of our Feb. issue we stated that the "back-coating washes off in development". This as most

photographers will realize is an inaccurate statement. The back-coating, of course, remains on the film after processing, and it is the tint in the back-coating that is washed out. The dark neutral colored tint which has been designed to absorb rays of all colors, changes to a transparent green in the earlier stages of development, which will not interfere with inspection by a green safelight. The green color is mostly washed out during fixation and washing, although there is usually a residual tint left on the film due to the character of the developer, or the hardness of the wash water used. This tint will not increase printing time.

New Information on Rolleiflex and Rolleicord

Mr. Burleigh Brooks, 127 West 42nd St., New York, N. Y., now has a new booklet describing in detail all of the improvements in the new models of the Rolleiflex and Rolleicord cameras, for which he is the American Agent. The booklet also describes the new accessories for these two popular cameras. Write for your copy today.

Special Photoflood for Enlargers

We know that a great many photographers are now using Photoflood lamps in their enlargers in order to achieve maximum efficiency. The General Electric Co., has now developed a special diffusing Photoflood bulb for use in enlargers which provides enough diffusion to eliminate the possibility of a "hot spot" on the easel, with minimum loss of light. Write to the General Electric Co., Nela Park, Cleveland, Ohio, for full information, or see these new lamps at your dealers.

Ihagee Exakta—Model B

New model Ihagee Exakta comes equipped with either the Zeiss Tesar F:2.8 of the Zeiss Biotar F:2. A particular feature of this versatile and convenient little precision instrument is the wide range of shutter speeds available. They range 1/25th to 1/1000th and with slow instantaneous speeds from 12 seconds to 1/10th sec. The camera combines all of the advantages of visual focussing and focal plane shutter of the modern reflecting type camera, combined with those of the ordinary roll film camera. Abe Cohen's Exchange, 120

Fulton St., New York, N.Y., will supply you with full information and make a liberal allowance on your old camera.

Engel Art Corners

As most of us know the only right way to mount prints in an album is by the use of the handy Art Corners supplied by Engel Art Corners Co., Dept. 28M, 4717 No. Clark St., Chicago, Ill. They greatly improve the appearance of the page, and permit the easy removal of prints if desired. Get a package at your dealers, or send ten cents to the above address for 100 samples.

Goerz Lenses

If you are at all interested in high grade optical equipment you will want the interesting 24 page catalogue now being offered by the C. P. Goerz American Optical Co., 317 C East 34th St., New York, N.Y. It tells just what you will want to know about the complete line of Goerz Lenses.

Solite Filters

Solite, 1373 Sixth Ave., New York, N.Y., have recently added a number of new items to their standard line of filters for the Leica Camera. Most interesting among these is a series of neutral density filters which will be found most helpful in preserving gradations in snow scenes, or beach scenes where strong contrasts and brilliant light are present; an Ultra Violet filter for use in high altitudes, and a graduated sky filter. The firm has prepared a very helpful bulletin describing the use and purpose of their complete line of filters for the Leica which may be had for the asking.

The Photo Flood-Spot

A useful and economical innovation in lighting equipment appears under the above name, and is a product of Photolites, Inc., 110 W. 40th St., New York, N.Y. In essence this is a light which will serve equally well as a spot, or flood simply by changing the condensor of the spotlight for a floodlight reflector. This will be easily understood if the reader will refer to the illustration which appears in our advertising pages. For full infor-

B. B. Nichols

The firm of B. B. Nichols, 731 So. Hope St., Los Angeles, Calif., is offering a most instructive catalogue on the Soho Reflex, a camera of English manufacture, which the firm is importing. An extremely useful feature of this camera is the fact that it has a four way swing front, thus com-

bining the advantages of a reflecting type camera with those of a view camera. Such a feature can be of great value to the photographer who desires to do a wide variety of work without purchasing a number of cameras. Write for your copy today.

Our Book Shelves

British Journal Photographic Almanac 1935, published by Henry Greenwood & Co., Ltd., of London. 684 pages, price \$1.50 cloth, \$1.00 paper.

Each year when the time for writing a few lines about the British Journal Almanac rolls around we must pointedly remind ourselves that there are no doubt a few newcomers to photography who are not entirely familiar with our old friend the "B.J." There is always the impulse to simply say the B.J. is out and it's just as good as ever, and let it go at that. For the neophytes we explain that the book contains about a dozen valuable articles, a pictorial section consisting of sixty photogravure reproductions of outstanding photographs, the Epitome of Progress, the sections devoted to New Goods, Tables, and Formulae, and the large advertising section that is of great interest in itself. The two new editors which take the place of the late George E. Brown, Mr. Henry W. Bennett, and Mr. P. C. Smethurst, have made no apparent change in the policy, or format of the volume, though some may detect a slightly more conservative viewpoint in the selection and arrangement of the pictorial section.

Practical Amateur Photography, by Wm. S. Davis. Published by Little, Brown & Co. of Boston, 264 pages, price \$2.25 cloth bound.

This is a revised edition of the volume originally published in 1923. The author is a well-known pictorial photographer who has written for various photographic magazines for a number of years. An article from his pen appears elsewhere in

these pages. The book as a whole is a comprehensive text book for the amateur photographer. The reader is led carefully and logically through the complete photographic process from the selection of equipment to the finished print. Explanations of lenses, exposure, etc., are included at the proper points. An extensive chapter is devoted to composition, and a number of the control printing processes such as carbon, gum, bromoil, etc., are discussed and explained. A particularly helpful section of the book it seems to this writer is the several chapters devoted to explaining the opportunities and procedure in photographing certain types of subject matter. Landscape, figures, and animal; ships and the sea; architecture, street scenes, flower and still life are discussed in this manner.

Das Deutsche Lichtbild. Published by Bruno Schultz, of Berlin. Page size 9"x11", cloth bound, \$5.00.

The most striking thing about this leader among photographic annuals is the superb quality of the reproduction and the uniform technical excellence of the photography. 128 pictures are shown, covering a wide variety of subject matter. Most of the pictures are apparently arrived at by straight photographic means, without resort to diffusion, tricks, or controlled printing methods. The technical data on the pictures is given in a section at the back of the book, and an English translation of part of the text is supplied. The most interesting article translated is a discussion of the new Din system for film speed rating recently devised.

Classified Advertisements

OUTFITS FOR SALE

◆German Leica Model "D," Elmar F:3.5—50 mm., Everready case, No. 1 Filter, \$79.50, less lens \$45.00. Perfect condition. Imported DeLuxe Tropical Model 10x15 cm. (4"x6") Mahogany brass, Doepel Anastigmat F:5.4—6½", double extension, focusing back, f.p. adapter, leather case, practically new, \$50.00. Box 408, Y.M.C.A., Denver, Colo.

◆Stereopticons: McIntosh Imperial model; superior construction workmanship, efficiency. Complete with either Mazda or arc lamp and large diameter B&L 18" or 24" lens. Bargain price for single stereopticon or double with dissolving attachment. Photo, detailed description, on request. Frank Jones, 304 S.W. Hamilton Ave., Portland, Ore.

◆Complete set of CAMERA WORK, edited and published by Alfred Stieglitz. Fifty regular issues and three special numbers. Excellent condition. Make an offer. F. E. W., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Victor Model 3 with F:3.5 and F:1.9 focusing lenses, and case, cost \$100.00; Simplex F:3.5 and case, cost \$38.00; Sharman Tripod with tilt and pan head, cost \$13.00. All in good condition. Make offer for all or part. S. G., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Kodak Enlarger, model A; 4x5 Premo View with Kodak F:6.3 Anastigmat, compound shutter, 5 dbl. plate holders, and pack adapter; 4x6 Glunz F:6.3. Compur; cheap for cash. I want R. B. Graflex. C. D. Bates, Vassar, Mich.

◆Miroflex Zeiss Tessar 4:5 2¼x3¼ F. P. adapter D. S. very good shape \$50.00. British deluxe as follows: Newman & Guardia Sybil Taylor Hobson Cooke 4:5 2¼x3¼ very good shape, \$50.00. Newman & Guardia Roll Film Excelsior Ross "Xpres" 4:5 2¼x4½ practically new \$75.00. Leica Model A or B Elmar 3.5 fixed mount nearly new \$45.00. All above have cases. H. D. Dodge, 600 Pingree St., Detroit, Mich.

◆Cine-Kodak, Model "K," F:1.9 lens, black carrying case, with Model "C" Kodascope Projector. Both same as new. REAL BARGAIN AT \$110.00. Examination privilege. F. D. Stoll, 104 W. Chestnut St., Louisville, Ky.

◆3¼x4¼ Series B Graflex RB 6½" Anastigmat F:4.5, cut film magazine, film pack adapter, roll film adapter, plush-lined case, film pack tank. All practically new, \$75.00 cash. Merwin Jones, Radio KOH, Reno, Nevada.

◆Enlarger, Elwood Studio Type 5x7 Negs, with Bausch & Lomb F:4 Lens in Iris Mount. A1 shape. \$30.00. Also large supply of Chemicals and equipment at half prices. Write: Alfred A. Blanco, Box 1156, Stockton, Calif.

◆Rolleiflex, 2¼x2¼ Zeiss Tessar F:3.8 lens, matched pair of Zeiss Proxar lenses, carrying case, excellent condition, \$47.50 complete. Ralph Jessen, Dos Palos, Calif.

◆Reducing back 6½x8½ to 5x7, \$5.00. Convertible Anastigmat F:6, 8½" & 17" focus in Acme and Barrel, cost \$110.00; \$37.50. Reflex Postcard size \$25.00. Wratten 2¼" circular filter holder fits hood to 3". Clarke, c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Korona Home Portrait Camera, 6½x8½, \$25.00. Reducing back to 5x7, \$6.00. Gundlach Series B Portrait Lens f:4, \$50.00. Radar Anastigmat Lens f:4.5, \$40.00. New in 1931, used six months. Mrs. Geo. F. McClure, S. 905 Monroe St., Spokane, Wash.

OUTFITS FOR SALE

◆Kodak Recomar 18, Xenar f:4.5, Compur shutter, film pack adapter, 5 plate holders, distar lens, K-2 filter, leather case, practically new, \$35. Bal-dax, 16 exposures on 120 film, Meyer f:3.5, Compur shutter, practically new, \$25. E. Reisman, 519 Woodcliff Rd., Upper Darby, Penna.

OUTFITS WANTED

◆3¼x4¼ R. B. Series D or Auto Graflex with accessories. Must be in A-1 condition. Quote best cash price. C. Hellar, 1117 East Lewis, Wichita, Kans.

◆Stereo Camera. Kodak preferred. Good condition, right price. Camera, 72 S. Grant Ave., Columbus, Ohio.

◆Small reflecting camera, preferably 2¼x3¼ or 6¼x9, with revolving back. Describe outfit accurately please. R. B. Wylie, 1047 Woodlawn, Iowa City, Iowa.

FOR SALE OR EXCHANGE

◆K. C. glossy print dryer. 2—5x7; 1 Postcard size: —6½x8½; view cameras. Cash or what have you? Want hand printing press. Swanets Studio, 323 Fifth, Santa Rosa, Calif.

◆Trade, National Match Star Gage Springfield Rifle fitted with Lyman No. 48 sight and leather sling, for small camera. Prefer Zeiss Ikon, Ikonat A fitted with f:3.5 lens or its equivalent. Wm. W. Reiter, 1437 Greystone Dr., Pittsburgh, Pa.

POSITIONS WANTED

◆Young lady would like position as an apprentice in a Photo Studio. Have had experience in coloring and finishing. You may write Miss Finn, 430 Central Ave., San Francisco, Calif., or call WALnut 0637.

◆Young woman, educated, systematically trained in photography, and willing to accept minimum wages to begin with. Willing to go anywhere, excellent references. June McMartin, 1617 California St., Room 1, San Francisco, Calif.

◆Position wanted by an all around photographer and kodak finisher in a studio or kodak finishing plant. 14 years experience. Will accept a temporary or permanent position. Salary reasonable. Can give references. Homer S. Wyatt, Phone, Douglas 3643 L, 864 Burrard St., Vancouver, B. C., Canada.

◆By young woman experienced in studio general work-receptionist, colorist, retouching and finishing. Prefers San Francisco and vicinity. References. Address B. H. O., care Camera Craft, 703 Market Street, San Francisco, California.

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CAMERA



"Drillers and Scalers"

Ben Glaha

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April 1935

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"The Moon Maiden"

Forman Hanna, F.R.P.S.

Photography Of The Nude

Forman Hanna, F.R.P.S.

I CAME to Arizona from a prairie country. Its mountains and canyons were fascinating to a former plains dweller. Walking and horseback excursions were taken to places that looked interesting and numerous exposures made, none of which ever reached a salon.

On one of these trips my little canyon was found, which is more a deep cleft in a rocky hillside than a canyon. Walking up, its beauty was marvelous but the rock forms of the walls did not seem to compose and my results were disappointing. Sometime later, on another visit, I realized it was all background, and what it needed was a figure. In those days figures were not obtained easily, at least not the type one could use. It was prior to form fitting clothing, bare legs and observation bathing suits. The southwest, that many years ago, was very much a man's country and there were few young girls. I hesitated asking one of them, fearing indignant parents would scatter my remains over the surrounding landscape.

I managed to muster up enough courage to ask a friendly newspaper man for the loan of his young daughter. Writers along with picture makers are on the queer side of the ledger too, and he consented. The daughter was glad to pose. Her father and mother with a canteen of water went along. It was a July morning and the sun unusually enthusiastic. Those who have never been in Southern Arizona in midsummer can imagine the discomfort of burning sand underfoot, the heat let loose by a bright sun overhead and radiated from a canyon's rock walls.

Due to inexperience, I had my little model sit on rocks and lean against others, until angry red showed on every part of her body where her tender skin came in contact with their almost blistering surfaces. She had studied dancing, so I had her take some dancing poses. They were easy, her footing was so warm she had to keep in motion and it was only necessary to select a proper moment and arrest it. By the time we finished, my model looked and felt parboiled, but was still game, even though we were wilted and ready for the return trip to iced drinks and cooling shade. The results of my first experience with the nude were accepted at an exhibition. There did not seem to be any enthusiasm over their showing but one visitor wrote he didn't like them.

Another girl was secured and I still failed to cause a ripple on the pictorial waters. However two of the photographs were shown, one in the east, another in Liverpool. The one at the British exhibition was "panned" by Mr. Tilney but as an afterthought he mentioned that the model had a beautiful back, which was not allowing me much credit. An amusing incident occurred with this model. I went out to her home with proofs from the negatives. At my knock she came to the door, saw who it was and with a shocked cry turned and ran, leaving me surprised and a little crestfallen. Her mother a few seconds later let me in and on my inquiry as to what was the matter, said her daughter had no stockings on. Girls were like that sixteen years ago.

My "studio" is in a small canyon, just a short distance from the little town where I live. It is full of interesting settings. The same section, about midway of the canyon, has been used for more than fifteen years. Each year locations are found that in previous ones have been overlooked. When this spot is exhausted, if ever, there still remains much unused territory. It is possible to drive to within fifteen minutes walk of where the pictures are made. The walk is rough and tiring to one unaccustomed to clambering over rocks. With seventeen pounds of equipment and my enthusiasm, even I find it trying. Going in one travels down grade, in the coolest and most comfortable part of the day. Returning is quite a different story. Uphill and in soft sand, when not pulling one's self over the boulders, and an Arizona sun bearing down.

Weather permitting, I generally work from late in March until about the middle of June. After that time the shadows are short and the heat too intense. I like to start making exposures not later than half past eight and usually finish about ten. When my model is quite young I prefer to have her mother accompany us the first time. Afterwards the much publicized "mother love" is not so evident. Next morning with complaining muscles, mother decides that nothing she was able to prevent could possibly happen to daughter that would compensate her for another round trip to the "studio".

My models have given splendid support and it is surprising how enthusiastic they become and how hard they try to do just what is asked. They will sit uncomplainingly in the blazing sun on rough, hard and often hot rocks, in positions difficult to hold and that no one should be asked to take. They will recline or sit on the coarse sand, that is always full of sharp pointed particles, with just a reproachful glance and an occasional small voiced protest. They have been on the edges of rock shelves from which a fall would be quite serious. Have had them facing the sun, trying to look pleasant and keep their eyes open at the same time, an impossibility a model claims I thought up unassisted.

Their ages have been from five to twenty-five. For the majority of pictures I like to do, the ideal is about fifteen. In the southwest, girls of that age are quite well developed. Skin is smooth and velvety, no hard muscles in evidence and the lines beautiful. Unless they are too conscious of being unclothed, which sometimes occurs, they are more plastic. However, it is easier to get older girls to pose and I find those about twenty and older women are more appreciative of figure studies. It is quite



"Golden Sunlight"

Forman Hanna, F.R.P.S.

pathetic that many women nearing middle age have so deep a regret, now that their figures are gone, that they have not posed. It is surprising the number, who in their younger days have been asked to pose by an "artist". I believe most every woman in her later years, regrets the absence of unconventional moments among her memories, and posing for

the nude is still just a bit out of the ordinary, especially in a small community.

My experience has been unique in that I have never had a professional model, or one that had posed elsewhere. Those who have worked for me are local girls that I know. It is seldom one asked refuses. If in doubt as to her fitness only one appointment is asked for. If I am unable to get a result that pleases, it is the last. With this method it has never been necessary to tell one she will not do. I use every bit of my ability to get something that will pass a jury. As they have been gracious enough to lend me their beautiful young bodies for a picture, I am never satisfied until one is accepted by a major exhibition.

It is my intention to have the model take a pose that will be an excuse for being without clothes. An unconscious attitude of being alone and interested in her surroundings, the veneer of civilization put aside with her garments. Sometimes I succeed and my name is in the catalogues of the important shows, at times they get reproduced in the annuals. The hardest thing to contend with is the idea that all that is wanted is a photograph of a nude body. If it were only that simple.

There is entirely too much of an attitude of naughtiness to photographing the nude. The female figure is no longer a mystery. The art galleries, the movies and the modern swimming suit have seen to that, so why should it not be photographed or painted or etched. To me a girl with the sunlight playing on her body is the most beautiful thing in nature. My photographic experience, over a long period of years, has convinced me the majority of women feel the same way. The average young woman with attractive lines, is not only not ashamed of her body but proud of it.

The handicaps of nude photography in the hard bright light of a cloudless sky are many. However I do not know of any way to get the pictures other than put my model in the sunshine. When I feel prosperous, I do sometimes furnish the girls with soothing creams and sunburn lotions and my sympathy in advance, for I know how their skin will feel the next morning, even if they don't. For some reason I have no desire to do them indoors, although it would be much more simple. Hair could be kept combed, eyes open and when drapery was used it would at least be near the model if not on her.

To those of you who wish to go "back stage" and I admit a liking to know how the other worker does his, here is "how it was done".

My camera is a long focus four by five Graflex. While I use an anastigmat for all my other work, I do not seem to get the desired effect with this type of lens for figure work. When the soft focus lens was marketed I bought several, but was never able to do what I wanted with them. As I never throw anything away, recently I decided to try one for my nudes. The resulting negatives were quite beautiful but would not enlarge. Finally I tried stopping the lens down and when I reached F 11 my problem was solved. There is a feeling of luminosity in negatives made with my old Pinkham and Smith semi-achromatic ten inch lens, that I have been unable to get any other way. The negatives appear quite sharp but when enlarged to eleven by fourteen, through one thick-



"Sunlit Brush"

Forman Hanna, F.R.P.S.

ness of chiffon, whether all of the negative or just a small bit is used, there is an effect of softness with firm drawing, good perspective and a "shimmery" lighting, that to me is delightful.

My negative material is Eastman Commercial Panchromatic cut film,



"Sand Shadows"

Forman Hanna, F.R.P.S.

without a filter. I prefer this emulsion to any of the others. The exposed films are developed in a tank, with Rodinol for softness.

Enlarging is done on a chloride paper. For some time it has been Eastman Opal in the various surfaces, developed with their contrast formula. Doesn't sound sensible, a contrast film developed for softness and a normal paper with a contrast developer, but if one were sensible he wouldn't be a photographer.

Most of my successful pictures have been made facing or almost



"Canyon Sand"

Forman Hanna, F.R.P.S.

facing the light source. Naturally I use a lens shade, supplemented at times with my hand or hat. We all know of course, that the highlights should never be represented by white paper. I find it very difficult to retain a printable one in our bright sunshine with white rocks and light colored sand foregrounds. I am generally able to remedy this by overprinting in enlarging, as many as five or ten times more than needed for the complete exposure. One rock on which I had my model stand, reflected so much light it was necessary to paint it with powdered red color mixed with gasoline. The solvent evaporated immediately and left a dull surface. A regular paint did not prove satisfactory as it too reflected light. I also find it necessary to do quite a bit of shading or holding back, at times I use both hands and often wish for an educated foot. I have a bit of paper attached to the end of a narrow strip of glass that I find useful in holding back a face or the hair. I never use a tripod as it is generally impossible to set one up in the rough places I photograph from. Most of my exposures are made at a tenth of a second. It requires a full exposure to get flesh tones when facing the light.

For those of you who have an occasional failure I am ashamed to admit the number of exposures discarded and how few pictures I have after a seasons work. When one does get a "masterpiece" the many poor ones are forgotten and you are anxious to try again. Already I've engaged a model for the coming season.

The Work Of Ben Glaha

Willard Van Dyke

WHEN the engineer's dream of Boulder Dam began to be realized, the United States Government decided that more than verbal and oral records of the great project would be needed. As photography is generally conceded to be the most objective of the graphic media, Ben Glaha, the photographer, was chosen to make a complete record of the job, from start to finish. In an engineering project of this size, there are physical dangers and enormous difficulties with which to cope. Here is no job for a coddled artist-photographer. Glaha has photographed from the high-line cableways swinging seven hundred feet above the canyon floor, and from a boatswain's chair at the end of a two hundred foot rope over the side of the canyon wall. Work at the dam goes on day and night and he has photographed it under all conditions. He cannot pick his time because the entire job must be covered at regular intervals and so he must often work against extreme odds. Temperatures in the summer often range above 130 degrees. In addition to weather inclemencies there are many other obstacles. He has had to photograph underground in the tunnels at times when his camera had to be protected from a downpour of water. And at the other extreme are the many difficulties which arise from the great amount of dust often present in the atmosphere. But in spite of every handicap, Glaha has made hundreds of photographs of rare value and fine photographic quality.

Glaha's technic is clean and precise, like the machinery he works with. No other kind of photography would do. Imagine the inanity of a great enlargement from a small negative, printed by any of the various controlled processes, attempting to show the careful calculations of the engineers who conceived the dam. He uses a 5 by 7 view camera with a Turner Reich convertible anastigmat and a Graflex with an Eastman f 4.5 anastigmat. All kinds of cut film and plates are used because of the variable conditions encountered. But always the finished product is kept in mind when the exposure is made. Careful chemico-mechanical control is exercised at every stage in the process. By this I do not



"Drillers on Canyon Wall"

Ben Glaha



"Spillway Gate and Piers"

Ben Glaha

mean to imply that Glaha ever loses sight of the fact that photography does not allow manual interference with its essential qualities, quite the contrary—he knows so thoroughly the effects of each developer, of temperature changes and of exposure, that the result is always convincing. Only one negative is made, two at most. And of course his method demands absolute knowledge of the possibilities and limitations of his medium.

In addition to the 4,000 negatives that Glaha has made in the course of the dam's construction, he has also shot 30,000 feet of motion picture film, from which have been cut two feature length pictures which have been widely released for showing before technical societies, schools and civic organizations. In this work he uses a Bell and Howell Standard motor driven camera with a battery of lenses ranging from 24 mm to 20 inches in focal length. He also uses a Bell and Howell Eyemo with which a few feet of film are exposed every other day from a fixed point. This will produce a progressive record of construction which when shown will visualize the entire period in a few minutes.

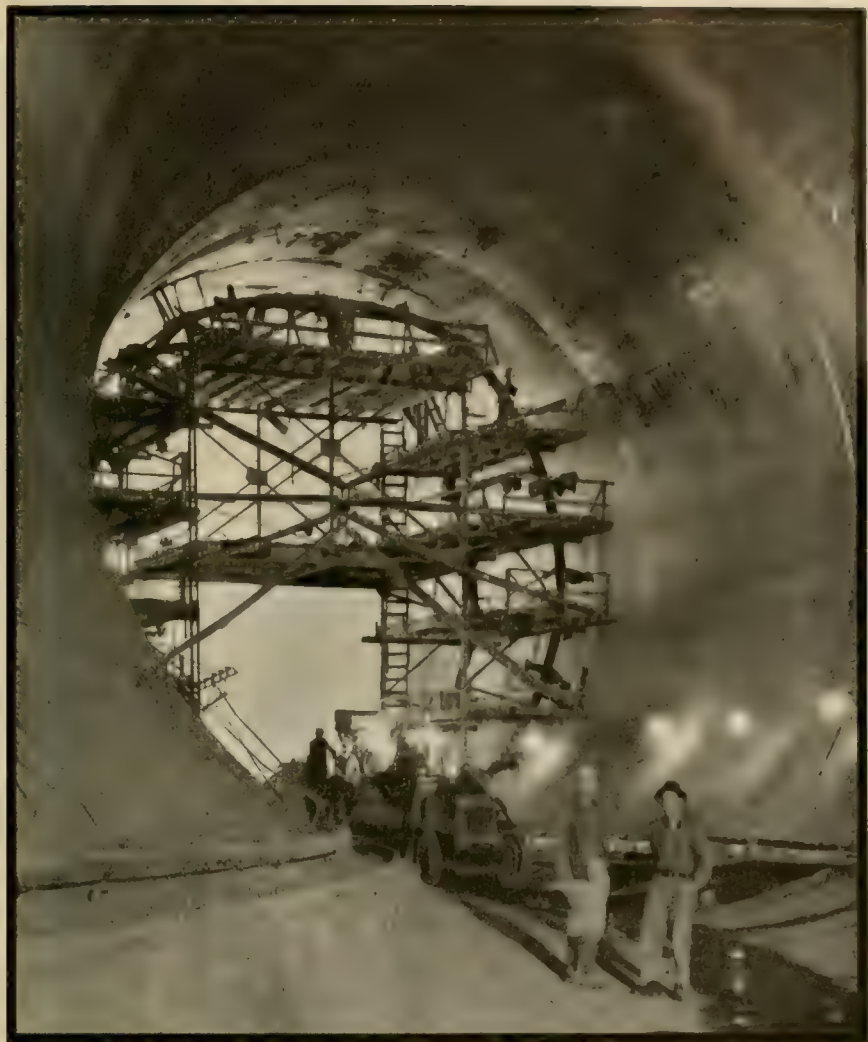


"Man With Water Bag"

Ben Glaha

Technical mastery of a medium only means that the artist has perfect control over the instrument with which he is telling his story. The story is the important thing. Every artist is the result of the forces which mold his social background. The painting, or etching, or, as in this case the photograph which he produces inevitably tells us something of this artists reaction to the conditions under which he exists. He may attempt to escape their implications entirely by retreating into a long forgotten past which has little significance for us at the present time, and produc-

ing spurious illustrations of past events or pseudo-portraits of dead individuals who may have excited his imagination in some way. Needless to say the result has no importance from any point of view. Another artist may ignore more important elements of the scene around him and make pretty pictures of snowbound streams, or soft-focus trees against a valley filled with mist. There is little to be said about such a man except that his work is often eclectic, or perhaps influenced by other art forms. But these are tremendous days. World history is in the making, *now!* Steel bridges are being flung against the sky in a dozen different places, dams—bigger than ever before—are being built to bring light and power to thousands. But with all this, the world is in political turmoil and men and women are being persecuted in every country for political differences. What a drama is unfolding! No real artist is unaware of it, and no *real* artist tries to escape from it. Participation is essential. No one can deny that a turning point in man's relation to the world is at hand. Everywhere are evidences of knowledge that greater synthesis is needed. The past few years have seen a decline in the number of "ivory tower" artists. Every art form is experiencing a Renaissance. It is no longer considered necessary to withdraw from life in order to create a work of art, and because of this, the artists is not so often regarded with suspicion by the layman. Painting is well into a new era of regeneration. The work of the French abstractionists, Picasso, Leger, Bracque, and the like, has been found to have limited value for us. It served its purpose as a technical experiment—indeed it opened new vistas and provided new means of expression—but it is considered outmoded in American Art circles. In its place has arisen a new school. Thomas Benton, Walt Kuhn, Adolph Dehn, Charles Burchfield, Grant Wood, Edward Hopper, and others are showing us that the American scene can provide exciting stimuli for real painting. This new painting has vigor, youth, strength. It is not afraid of subject matter; it realizes its importance in communicating the artist's ideas and emotions. The motion picture is being defined anew in Russia by Dziga-Vertov, who uses the principles of montage to create a picture out of isolated newsreel shots. This is a realization of film language never seen in Hollywood or in the *avant-garde* films of the decadent French experimenters, such as Man Ray, Jean Cocteau, Leger, Dudley Murphy and the whole coterie of Parisian playboys for whom existence is the iridescence on a piece of decaying meat. Jean Cocteau, for instance, in his surrealist film, "The Blood of the Poet", wastes hundreds of feet of film depicting various *voyeurist* activities. This cult really marks the death of the old ivory tower concept, and with its passing fresh clean air is beginning to be breathed again. And so it is in every form of expression, literature, music, sculpture, have all turned from the doctrine of escape to a new existence rooted in life itself. Documentary photography led the way for all this. The work of such photographers as Walker Evans in New York, Consuela Kanaga, and Dorothea Lange in California, and Ben Glaha has been an important wedge in opening new vistas to the photographer. In their work we see the promise of photography which combines the technic of Group f 64 with subject matter more vital than that usually chosen by members of that group.



"Grout Rig In Tunnel"

Ben Glaha

Glaha's significance as an artist and a photographer lies in the fact that he has not turned his back on the subject material offered him in his regular line of duty. For the first time, to my knowledge, a man who is hired to do a big recording job, also turns out photographs of rare beauty from every standpoint. Compositionally perfect, his work never loses sight of the more important human thing back of the steel and concrete. His prints are living documents of the heat, the sweat, the effort, and the pain endured by the workers that the dam may be built.



"Truck and Shovel"

Ben Glaha

Photograms

Nicholas Haz, F.R.P.S.

This article is not presented with the thought that great numbers of readers will become absorbed in the making of Photograms, but simply because we believe that the serious worker in any medium, not only should but does, desire to understand all aspects of that medium whether they meet with his approval or not.—Ed.

PHOTOGRAMS are pictures made by light but without a camera. Shadows are cast upon sensitized sheets of paper with actinic light. The so exposed prints are then developed and that's all there is to the making of photograms.

But to appreciate them, that is another matter. Most onlookers hate them, (unless they are attracted by their sheer pattern,) because they are, usually, unsolvable puzzles to them and few relish to study such things. Some of us get peeved even at foreign newspapers, especially if they are printed with Oriental characters. We don't like to see pictures which cannot be understood at first glimpse.

"What are photograms made for; what good are they anyway?"

"They are abstract pictures and serve the same ends as other abstract pictures, they represent things, people, emotions and ideas in the simplest possible way."

"But what are *abstract* pictures?"

"The word 'abstract' has many meanings; in this connotation it stands for universal, all-inclusive. Abstract pictures represent general concepts as a rule, not specific, particular, definite objects. For instance a photograph of any hat represents, at best, only one kind of a hat, never all hats of all time."

"But how can one picture all hats of all time?"

"Simply with symbols. Here it is: HAT. The three sound symbols marked on this surface picture all hats that ever existed or are going to exist."

"Do you mean to say that letters, numbers and musical notes are pictures?"

"I realize, of course, that no old time pictorialist will ever admit it, but all these and all other abstract symbols used in any language are pictures whether or not they descend from concrete likenesses of things

and people as do ideograms and hieroglyphics. They are pictures to me, whatever they are to text books on composition. Any marked signs on any surface which represent things or ideas are pictures to me. Abstract pictures are the most important ones, they are more influential than any concrete picture, even if painted by the greatest artists. You see with abstract pictures we can represent with a minimum of difficulty the maximum of subject matter. Otherwise undepictable ideas, invisible, abstruse, intangible even unimaginable things can be pictured with them with the greatest ease."

"All right, for the sake of argument I will admit that letters and numbers are pictures, but how about the photograms?"

"They are pretty much the same as writing or lettering, only with one big difference, namely that the symbols used aren't generally known and accepted by everyone but are usually invented by the picture-maker."

"What right has a picture-maker to invent his own symbols?"

"All the right in the world,—that is in free countries—only under dictatorships is he deprived of the right to paint pictures to suit himself."

"There ought to be a law in all countries against the making of pictures which one cannot easily understand."

"In wartimes, at least, there are such laws. You remember that during the great war all foreign papers were forced to run a good translation with all their articles. But in peace they let you make any puzzling pictures you care to do. Otherwise Gertrude Stein could not publish all her stuff."

"You still owe me the explanation of photograms."

"Well here is one made by Herbert C. McKay. It represents disaster, not one particular instance of it, but a summary of a great many of them, of all times and at all places. Most disasters are characterized by the fact that some well ordered, harmonious dignified progress has been interrupted by an incalculable, sudden catastrophe such as death, fire, flood, war and so on, and this upset all order, dignity, regular continuity and threw everything into a chaos."

"The vertical stripes, progressing upward, represent sustained orderly striving, the black blotch in the center represents the catastrophe, the tangled lines on top stand for things gone haywire. That's all."

"Accepted, but could this not have been made by other symbols?"

"Oh yes, a thousand different makers could have used any number of other spot-symbols to express the same idea. Since everyone is entitled to invent his own symbols, they probably would have used quite a variety of them."

"Why is the print so crude, simple and ugly?"

"Well, Mr. McKay does not like disasters and thought that a crude, rough and simple pattern would express them better than a sophisticated, refined and beautiful one. He took simple strips of black paper and one stencil, laid them on the sensitized surface in the desired order and exposed. If he had a subject for which he cared more, such as "happiness" or "carnival" or "romance" he would have, probably, used elaborate means, such as shadows of plastic, complicated objects, to build his pat-



Photogram

Herbert C. McKay

terns, then soft edges, variegated tones, suggested depth or plasticity would have helped him to elaborate the representation."

"Supposing he had not explained this print, how would you know what he wanted to say with it?"

"I would have to guess it, as I have to guess at nearly all other photograms, such as those made by Moholy-Nagy and Man Ray,—for instance. They never explain what they wanted to say. They entitle their prints with non-committant words such as "composition" or "rayogram". If you should ask them, they might or might not tell you what they intended to say. Some ultra-modern painters, as Kandinsky, Bracque and others simply tell you, 'just a mood, could not express it in

*Reversing the
order of the
symbols, may
reverse the significance
of the Photogram*



words or in writing, whatever you see in the picture, is what is in it'."

"I still don't know what is the good of them?"

"Well, the most important good is that the maker has a lot of fun doing it. This probably is their most important reason. Then, believe it or not, there are spectators who like them, whether or not they can divine their meaning. I admit that there are not many of these, but makers of photograms don't ever try to work for the large multitude, they are satisfied with a small crowd of interested onlookers. Last but not least they can be used in articles explaining modern art, in exceptional moving pictures, in furnishing of ultra-modern apartments, framed on the walls, and I suspect that in coming days the advertisers of refined goods will discover them and use them to puzzle and thereby to attract an exceptional class of purchasers. Bruguere, a very highly respected American photographer working in Europe has made a living out of them and (hear, hear) the most prominent makers can become famous with them. If you don't believe it, study the career of Man Ray, another outstanding photographer from America, who makes quite a stir amongst the 'intelligencia' of Paris."

"I am beginning to catch on. Say, would not a print made from this one, used as a negative, in which the black blotch would be white, the resulting print placed upside down, so that the vertical stripes would be on top, represent 'stroke of luck'?"

"It certainly would, provided of course that the spectator would be willing to look at your print without a prejudice against everything modern. It takes two persons to make a 'good' picture, the maker and the onlooker."

Controlling The Photoflood Light

Lloyd J. Cartwright

The resistance system described below was designed for use with the Portable Floodlight described in our March 1935 issue. With slight changes it can be easily adapted to other lights.—Ed.

AFTER using my floodlight for some time I was confronted with the problem of having to replace the lamps rather often considering the number of exposures made. It was quite evident that much valuable filament was being burned up needlessly during the focusing operations. Some thought and experimentation brought about a very suitable solution.

First of all, the following data was obtained from the General Electric Company, Nela Park, Cleveland, the makers of the photoflood lamp:

Resistance of lamp at 115 volts	. . . . .	54.5 ohms.
Current taken at 115 volts	. . . . .	2.11 amps.

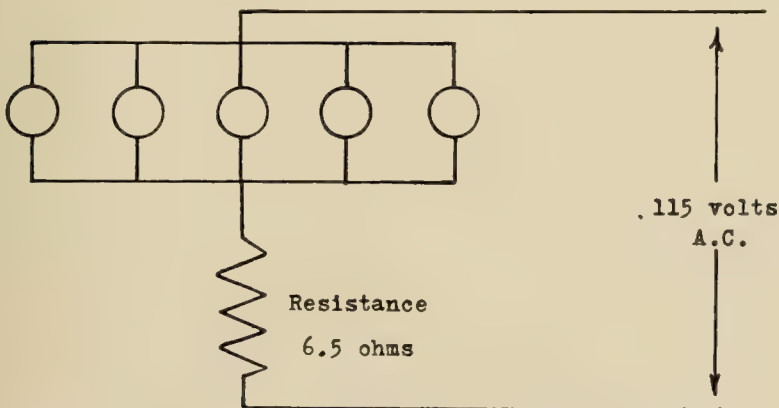


Illustration A

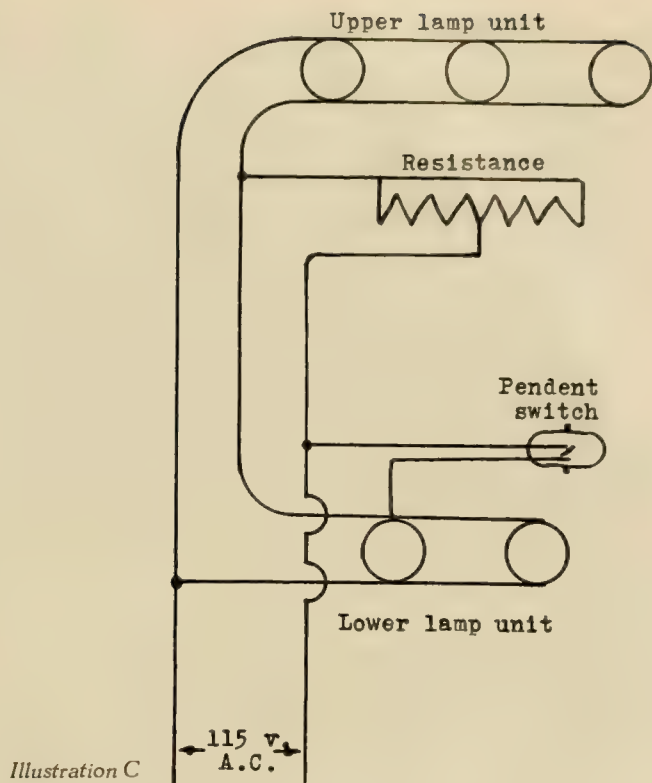


Illustration B

Wattage consumed at 115 volts	243.
Resistance necessary to reduce voltage of one lamp to 64	30. ohms.
Resistance necessary to reduce voltage five photoflood lamps in parallel is	6.5 ohms.
(See diagram A:)	
Total current with five lamps in parallel, in series with resistance as given in diagram A	7.8 amps.
Total current with five lamps across 115 volts	10.55 amps.

By introducing a resistance into the circuit to reduce the voltage to approximately 64 (the normal voltage of the original train-service lamp, from which the photoflood lamp was developed) the life of the lamps is greatly lengthened. The slight dimming of the light does not impair its effectiveness for focussing. Then, by arranging a switch to shunt around the resistance and deliver the full 115 volts to the lamps just before the exposure is made, the lamps are bright only during a relatively short period of time.

The required resistance could be obtained by using 6.3 feet of No. 22 Chrome-Silicon-Steel resistance wire. This, however, would generate enough heat to raise the wire to incandescence and cause the resistance factor to change as the temperature increased. To allow plenty of heat dissipation, it proved best to use four times as much resistance wire as given above and use the two halves of it in parallel.



The completed and installed resistance is shown in illustration B. To build it proceed as follows: Obtain an old resistance coil from an electrician. If one of the proper capacity (25 to 30 ohms) is obtained, no rewinding will be necessary. Otherwise, remove the wire and wind about 26 feet of the wire mentioned above on the asbestos covered tube.

Make two sheet-metal mounting brackets and clamp them to either end of the coil with stove bolts. A heavy copper wire is used to connect these brackets as shown in the illustrations. A clamp of sheet-metal is attached to the middle of the coil and used as a binding-post.

Now paste a sheet of asbestos paper across the top and about three inches down the back of the lower compartment of the case. When it is dry, mount the coil by means of the brackets, to the top of this compartment using wood screws. The coil generates considerable heat and the asbestos will help protect the case.

Illustration C shows the general wiring scheme. The wire from the middle of the coil is attached to one of the screws in the plug receptacle. The wire from the ends of the coil runs down through a rubber bushing into the lower receptacle mount and connects to the lead-in and to the shunt switch. The other wire on the shunt switch connects to the same

line as the resistance. The shunt switch consists of a pendent switch on a cord which may be as long or as short as desired. A long cord will allow control of the light from a distance. I made this switch and cord removable by installing a plug-in socket in the lower receptacle mount and attaching a universal plug to the end of the cord.

Thus, when the switch is open, the resistance is in series with the lamps and they are operated at approximately 64 volts and give a flood of rather yellow light. Closing the switch shunts the current around the resistance and subjects the lamps to 115 volts and they emit the characteristic bright light.

Another valuable idea in the use of this light is to plug the auxiliary lights into the main light so that they may be controlled together. I use one or two photoflood lamps in single reflectors for auxiliary lights and plug them into one of the sockets of the main lamp case; then the lighting may be arranged with all of them dim. So, when the switch is thrown the relative strength of the lights is not altered.

Synchronizing The Leica With Photoflash Bulbs

Austin B. J. Clark

OF all cameras the Leica is the easiest to synchronize for use with photoflash bulbs. The fact that it usually has an f 3.5 or an f 2.5 lens makes the new 15c flash bulb much more useful than with a larger camera that has a slower lens. When the ease of using superpan film is considered the utility of the small bulbs is greatly increased.

The method of synchronization is quite simple as it consists only of putting a drop of solder on the shutter setting knob, as shown in fig. 1 in the wound position with the shutter set on bulb and in fig. 2 after releasing the shutter, between z and the 500 mark.

This is the only change made in the camera itself and is easily done by removing the knob by first removing the small set screw then winding the shutter and unscrewing the knob. It probably would not harm anything if the solder was applied without removing the knob but I did not want to take a chance. When the setting knob is replaced be sure that when the arrow points to Z that the shutter works on bulb.

The next step is to secure a piece of cardboard that will fit into the holder on the top of the camera when doubled. A piece is cut so that when doubled and placed in the holder it will not protrude towards the rear of the camera.

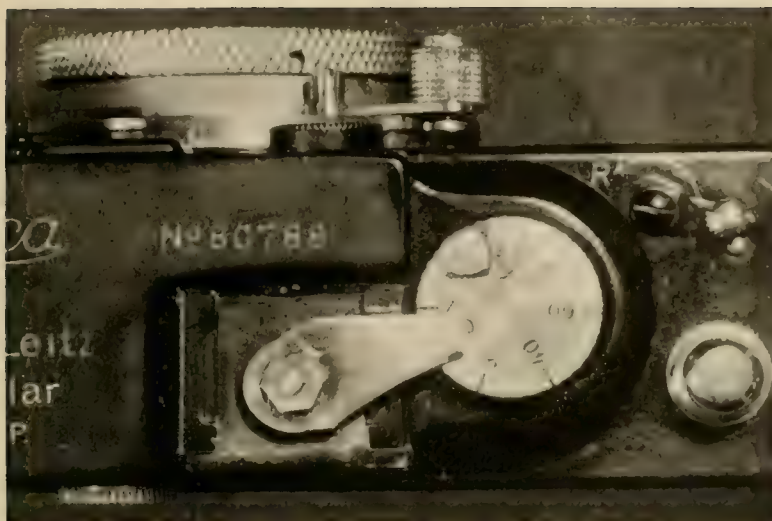


Fig. 1: Shutter in wound position. Note that the drop of solder is not in contact with the contact strip.

In this a hole is made in the top half and a screw, which should be quite small and countersunk, is placed through it and is fastened with a nut. Enough washers as shown in fig. 3 are added to build up to a height slightly higher than the top of the shutter setting knob.

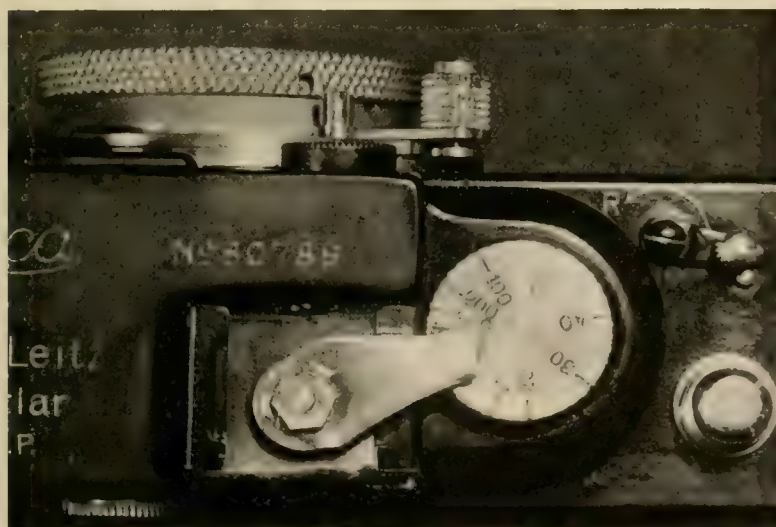


Fig. 2: Shutter released. Drop of solder in contact with contact strip, firing the flash.

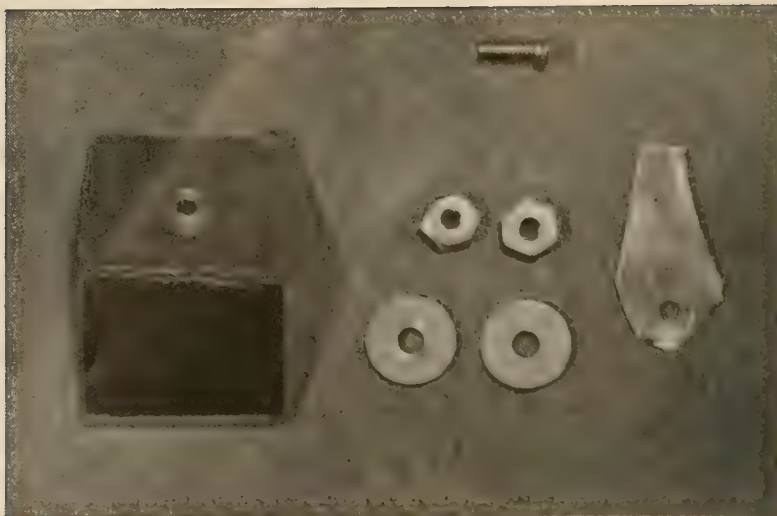


Fig. 3: Materials for constructing and insulating the contact strip.

On top of these is placed the contact strip, shown in fig. 3, which is held down by a nut. This strip is then adjusted so that it will make contact with the solder on the shutter setting knob when the shutter is not wound.

To use this synchronizer leads are taken from an ordinary flash bulb holder and one is attached to the contact strip and the other is connected to any convenient metal part of the camera by using a small spring slip or other suitable means. Care must be taken that the shutter is wound and that the contact strip does not touch the shutter setting knob before making connections with the flash bulb holder or a flash bulb might be ruined.

As the focal plane shutter is open all the way across at one time only at the 1/20 speed or bulb the use of any synchronizer on this camera is limited to these two shutter settings.

I think I would prefer to use a bulb setting and to release it shortly after the flash although it could be adjusted to work at 1/20 of a second.

Fig. 1 shows the shutter wound and that no contact is made with the shutter setting knob. Fig. 2 shows the shutter after releasing showing the contact strip touching the solder on the shutter setting knob.

It will be evident to the reader that a somewhat neater appearing job can be obtained by having a jeweler tap the shutter setting knob so that a small chromium plated screw may be threaded into it. If this is done the piece which now contacts the drop of solder when the flash is fired may also be made smaller and more attractive. Fibreboard of various kinds is more durable than cardboard and it might be used for the supporting piece which fits into the holder, and carries the contact strip. It is important to realize that a non-conducting material must be used for this purpose, for the contact strip must be insulated from the camera.—Ed.

Cinema Section

Edited by

William A. Palmer

Filter Advice Simplified

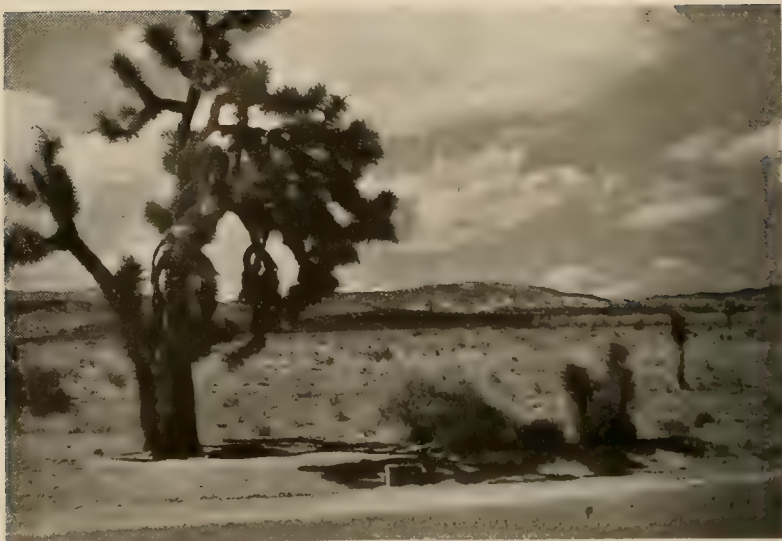
A NEWSREEL cameraman was asked by an information seeking amateur movie maker what filters were used by him in his newsreel work. The cameraman replied, "Oh, I have two filters, a yella and a red one. I usually use the yella one but if the clouds are awful purty I use the red one."

The amateur was slightly surprised at the statement and asked further of the cameraman concerning the type of scene on which he used the filters.

The cameraman replied, "When we want to have the clouds show in the picture."

In spite of the complicated and technical explanation and charts that might be given concerning the theory of color filters in photography, the statements of the cameraman just about cover the story of filter use for the average movie snapshooter. The newsreel cameraman is always working under pressure to get his scenes, often under very trying circumstances and always when time is at a premium. His main object is to get the subject photographed and only secondly to look after the pictorial values of his scenes. Pictorial values can usually go hang on most news subjects because if one were to try to pay much attention to them, the more important story telling aspects would suffer. It is when shooting exteriors, particularly long shots, and there chances to be a clouded sky, that the newsreel man thinks of his two filters—when he wants the clouds to show. If the scene is one in which the clouds are to be an adornment, the "yella" filter is used so that the clouds will show but not be too prominent. If the scene is one which becomes pictorial just because of the clouds, he is most apt to use the red filter, so that they will stand out from a dark background in all their glory.

The average amateur snapshooter has little more necessity or desire to keep the uses, exposure factors, and theory of a dozen color filters in his mind than has the newsreel man. He had best follow the professional's example and get two filters whose exposure factors and uses are easy to remember. This would be far better than following the course of many who dismiss the subject of filters as being too complicated.



Typical result with a Yellow Filter

To become more specific than the newsreel man as to just which two filters are the best for general use: The "yella" filter would best be a K3 or a G, and the red an A. It may seem to some that a K3 and especially a G give too much correction, but it is a fact that most people prefer to see contrasts exaggerated and skies slightly overcorrected. The purchaser of filters for his movie outfit should immediately ascertain the filter factor or the amount of exposure increase that is necessary when the filters are used. These factors should not be entrusted to memory but should be written down and glued, not just placed, in the camera case, or better still affixed to the filter itself.

The more advanced amateur, of course, will want to have a more complete kit of filters. He will investigate the theory of color filters and will know when and how to use the many different shades that are available. Going even further, he may experiment with various shades of cellophane and colored gelatin of the type used in stage lighting. Often these makeshifts can be used to give very excellent results. An amateur photoplay troupe was on location not long ago when it was found that the cameraman had left his filters at home. It was necessary to get a night effect by the use of a red filter. One brilliant member of the company suggested the use of a piece of magenta cellophane which was used as a wrapping for a candy bar. The cellophane was wrinkled and had printed matter on it, but a small area, large enough to cover the lens and fairly clear was found. The scenes were shot using a wild guess at the exposure factor. When the processed film was returned the scenes were found to be entirely successful. The exposure, by good luck coupled with the compensation of the processing, was satisfactory, the sky appeared convincingly dark, and the slight loss of definition due to the cellophane being clouded gave a delightful softness to the scenes.

Film Facts

FILM is not by any means an unvarying substance. When it has been recently processed, it is not the same as it will be after it has had time to season. It is not the same width or the same length today as it will be a week from today. For almost a week after the processing the emulsion will be slightly tacky and is very apt to stick or scrape off in the projector gate, giving rise to noisy and unsteady projection. One should therefore be very careful when running new film to keep the gate very clean and remove any accumulation of emulsion as soon as it forms. One can usually tell when there is a piece of emulsion stuck on the gate by a very much increased clatter of the intermittent. If the foreign matter is not removed from the gate it may cause a bad scoring of the edges of the film and serious damage to the perforations.

Although film is dry to the touch when it leaves the laboratory it is really not thoroughly dry. For the first few days it dries and shrinks quite rapidly, but the process soon slows up and the film becomes more stable. It continues to dry and shrink with decreasing speed as the film gets older. It is desirable, however, to arrest the drying process before long and for that reason the film reels should be put in humidor cans where in a moist atmosphere, the drying out will be very slow. If one does not use a humidor can, film will continue to shrink at too rapid a rate. The film also becomes brittle and eventually will reach a state where it cannot be projected without damage.

As in the case of an infant, the most critical time for a film is its first few days in its new surroundings. When the emulsion is still soft, it is very susceptible to being scratched. Dust and dirt will be ground into the surface very readily and will defy removal. When a film has become seasoned and "dry", dust and dirt that settles on it can be removed easily by passing the film through a soft flannel pad.

When one allows film to lay several months without being in a humidor can, the volatile components of the film base and the gelatin are evaporated. If the film is then placed in a humidor, the emulsion will regain its moisture but the film base will not regain its solvent. Therefore, film when once badly dried out and shrunk, can never be completely restored. The best treatment for a film which has been allowed to become dry and brittle is to wind it upon developing racks and wash it well in water. This will restore all the necessary moisture to the emulsion, will remove a good deal of the dirt which may have accumulated, and will allow the film to expand somewhat. After the washing, the film should be transferred to a drying rack or drum while the excess moisture is removed by passing the film through a soft damp chamois skin. This will prevent water marks and make any scratches less apparent by removing

the dirt from them. Any commercial film laboratory will be glad to do this film washing for a reasonable charge.

The drying out and consequent shrinkage of silent film is important to guard against, but it must absolutely be prevented on 16mm sound film, for a badly shrunk sound film will not only fail to project a good picture but will have its sound quality impaired. It will not move uniformly through the sound reproducing mechanism, a condition which will cause "wows" in the sound.

A Cure For Fire Hose Technique

MANY continue to obtain dizzy camera swishes when they mean to make a respectable panoram. They remember the caution to move the camera slowly and they try their best but somehow or other the scene results are bad.

There are usually two faults which occur even when one tries to pan slowly—He does not pan slow enough or, because of the concentration placed upon obtaining a slow horizontal movement, the camera is allowed to move vertically, giving a sort of rocking boat motion. Here is a trick that should eliminate both of these faults:

When holding the camera for a panoram, bring your elbows in and hold them tightly against your body so that your forearms will furnish a steady brace for the camera which should be held tightly against your cheek. If you try this, you will notice that the camera is braced so that there can be no great up and down motion unless you purposely make it by moving your head. If the elbows are not braced against the body, the camera can very easily wobble about. Now when panning the camera move your body from the waist, holding camera and arms steady as a unit. And here is how to gauge the proper rate of movement for the panoram: If you are panning from left to right, pick out an object in the view finder on the extreme right edge. Now, as the camera is moved to the right count slowly to yourself. It should take at least ten slow counts before the object selected moves completely across the finder, and disappears at the left edge. The panorama is more pleasing if fifteen counts are necessary for the object to traverse the field of view. Try it next time you make a panoram. It may seem to you that the movement is much too slow, but wait till you see the results on the screen.

Questions and Answers

QUESTION: How can oil be removed from film?

ANSWER: Carbon tetrachloride (Carbena) or any of the special film cleaning

solutions will remove any oil as well as other kinds of dirt. Proper cleaning of film is especially desirable for 8mm film, for dust shows very plainly when it is projected.

QUESTION: Is make-up necessary for amateur photoplay production?

ANSWER: No, not if one wants people to appear just as they do in real life. The present day panchromatic film records facial tone with fidelity and make-up is necessary only to cover facial blemishes or for character parts. It had better not be attempted, however, unless it can be applied skillfully.

QUESTION: What are the three most useful focal length lenses for a 16mm camera?

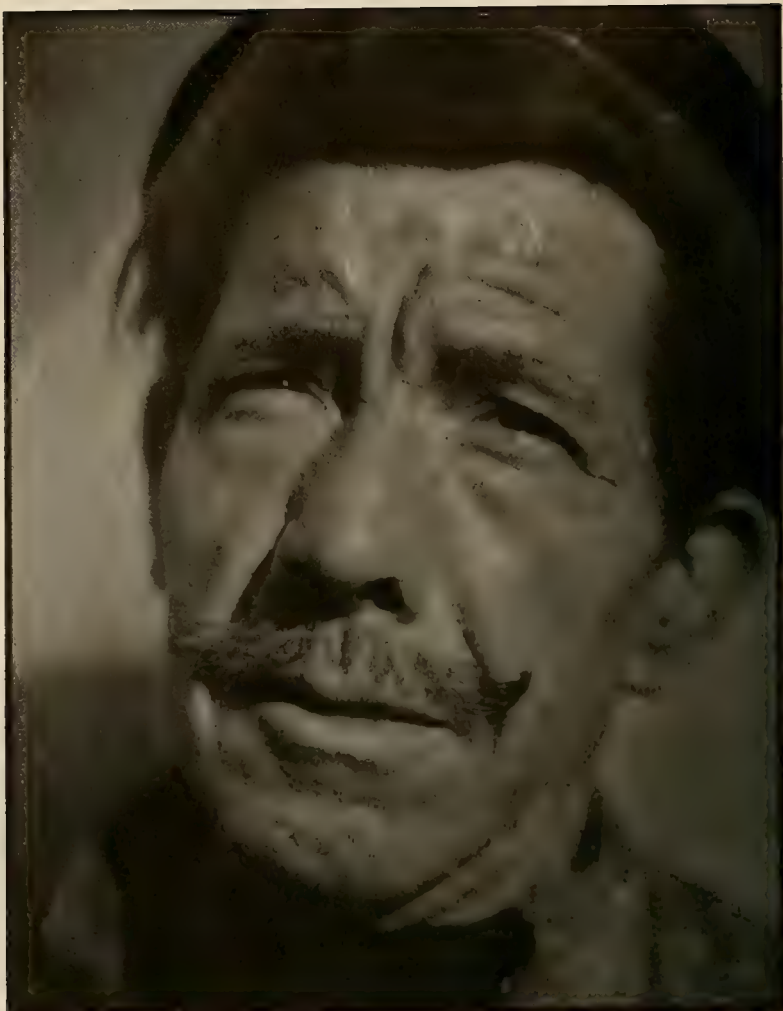
ANSWER: Opinions may differ on this point, but we would choose for our turret: (1) A 25mm f. 1.9 or f. 1.5, adaptable to Kodacolor (2) a 15mm f 2.7 wide angle, and (3) a 3 inch f 3.5 telephoto. If we were permitted a fourth lens, it would be a 2 inch f 3:5 telephoto.

QUESTION: Is it possible to take movies of a professional picture as it is shown on a theater screen?

ANSWER: It would depend upon the projection equipment in any one theater as to whether the pictures which one might take of the projected images would be successful. With a good brilliant picture on the screen, the camera operated at half speed, and the lens opened at f:1.9 or f:1.5 one should get a fair exposure on a super panchromatic film. It would not be necessary to synchronize the shutters of the camera and projector when the two mechanisms are moving at such widely different speeds. In a recent amateur picture a few scenes which were made by photographing the theater picture in this way were used to very excellent effect as additions to the regular amateur produced scenes. Care had to be taken that the scenes did not include too fast action, since the camera was operated at half speed.

QUESTION: Is there any special type of candle needed to make the flame photograph properly?

ANSWER: An ordinary candle will photograph on panchromatic film fairly well, but the flame is apt to appear rather dim and small. If a special candle is made by pouring molten candle wax into a mailing tube in the center of which there has been placed a piece of cotton clothes line rope to serve as a wick, it will be found that a much bigger, brighter flame will be obtained. The special candle should be about an inch and a half in diameter.



"The Sailor"

Advanced Medal Print

John Muller

■ We seem to recall that a famous recipe for some kind of dish, let us say rabbit pie, begins: "First catch your rabbit". Equally sound advice for those who aspire to pictorial portraiture is, first find an interesting face. Many an earnest amateur is working under an entirely unnecessary handicap simply because of the fact that his model is unsuited to the uses to which he or she is being put. Regardless of what type of picture one is striving to make, he must learn to look about him and discover the material that is most adaptable to his purpose. No landscape worker feels that he must make all of his shots in his own backyard, yet many a beginner in portraiture is loath to go beyond his own family. The ability to approach strangers and persuade them to pose is a faculty which is well worth cultivating, and those to whom such action seems difficult will be surprised to learn how easy it is after the first few attempts. All this, because Mr. Muller's splendid picture gives such eloquent testimony regarding the advantage of taking your subjects where you find them. The strong frontal lighting which practically forces a squint, would obviously be too severe for most subjects, but in this case it helps to emphasize the rugged, weather-beaten features; bringing out the nature of "The Sailor's" occupation, and consequently is thoroughly in keeping with the effect desired in the picture.

Data: 4x5" Graflex; 7" Zeiss Tessar; 1/25th sec. at F:16, on Defender XF Pan. Special, in M.Q. tank; Defender Veltura P.

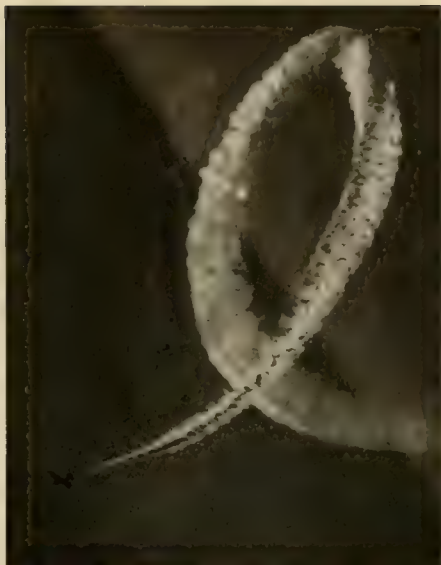
**Second Award
Advanced Class**

■ It is seldom that one has an opportunity to see a picture which combines, to such a superlative degree, two factors which are primarily responsible for effectiveness in pictures: simplicity, and dramatic strength. This picture contains nothing but one beautiful sweeping line and a small spot, the whole perfectly placed within the picture space. But what a story it tells; how it stirs the imagination. Here depicted, are Man's courage, and daring, Man's conquest of Nature, Man's inventive genius, the romance and thrills of aviation, of speed; of progress; almost any and every grand theme that goes to make up the saga of Mankind, written with one bold soul—stirring stroke, against an infinite expanse of sky.

We hope that the student, by studying this picture, will gain a lasting impression of the tremendous effectiveness of judicious economy of subject matter. The essence of true artistry is the ability to tell much, to stimulate a strong emotional response, to kindle the imagination with a single deft touch. Picture making is much closer to poetry than to prose.

It seems to be true that most observers view a picture more comfortably if the eye may enter at the lower left and move from left to right. It is therefore wise to conform to this habit in composing a picture if no other desirable qualities are sacrificed in doing so. We can see no disadvantage in reversing this picture as regards left and right, by simply turning the negative over during printing. This causes it to move from left to right instead of in the opposite direction as is now the case, and seems advisable to us.

Data: 4x5" Graflex; 8¼" Zeiss Tessar; 1/350th sec. at F:9, on Agfa Plenachrome film-pack; E.K. P.M.C. #11.



**"Aerial Acrobatics"
R. Owen Shrader**



**"Vannes"
Sophie L. Lauffer, F.R.P.S.**

sealed up doorway. As things stand the window is the strongest note in the picture

(Continued on Page 194)

**Third Award
Advanced Class**

■ These days we are constantly receiving more and more convincing demonstrations of the practical usefulness of the miniature camera. This 11x14" enlargement from a 2¼x2¼" negative has a technical perfection that is a joy to see. It is unfortunate that photographers must take their subjects as they find them, and cannot re-build buildings so that they will conform to picture requirements. We believe that most will agree that the picture would be better if the window at the left of the print were moved to the right so that it would occupy about the position now held by the

**Fourth Award
Advanced Class**



"Rainy Evening"
Edward Bafford

F:6.3, in A.B.C. Pyro (film not given); E.K. Opal T print.

■ Mr. Bafford has caught the atmospheric quality of this rainy scene to perfection. Students who are striving to record such subject matter, should keep in mind the fact that such a scene has a very short scale, that is to say that it is flat and lacking in contrast. Therefore great care must be taken not to over-expose. The exposure should be kept at a minimum and the development time prolonged, so that the delicate gradations in the subject may be maintained.

We believe that most readers will agree that the figure is rather centrally placed, and some will feel that the expanse of foreground is unnecessarily large. Both of these objections may be overcome by trimming from the right until only a small part of the banister remains, and from the bottom up to the base of the banister. We cannot see that such trimming injures the picture in any way.

Data: $2\frac{1}{4} \times 3\frac{1}{4}$ " Kodak; 1/25th sec. at

**Fifth Award
Advanced Class**

■ Unquestionably the Japanese, as a race, have brought the art of flower arrangement to its highest peak of refinement, and this fact is reflected in the lovely flower studies for which Japanese photographers are famous. The knack lies in finding an arrangement that will emphasize the graceful lines of the flowers and bring out the delicate structure and texture of the blossoms. The present composition seems to do that admirably, although there appears to be a slight confusion of line in the upper right.

In a picture of this kind textures must play an important part and when such is the case we question the advisability of using the paper negative process, for there is bound to be some loss of texture when this method is adopted. Of course, if extensive alterations from the original negative are necessary the photographer may be forced to use the process against his will in order to obtain the desired modifications of the negative. We find, however, that many amateurs are using the paper negative process when there is no apparent reason for doing so, to the detriment of the final result. This does not mean that a paper negative should never be used except as a means of achieving alterations, but it does mean that the nature of the subject matter and the final result desired should be kept in mind when choosing a printing method.

Data: $2\frac{1}{4} \times 3\frac{1}{4}$ " Graflex; 1/50th sec. at F:4.5, on E.K. S.S. Pan., in A.B.C. Pyro; K-2 filter; paper negative on Defender Veltex F, in D-64 A; final print E.K. Opal W.



"Magnolia"
K. Kojimoto



"Granite Lady"

Amateur Medal Print

William E. Wing

■ By judicious selection of lighting and point of view Mr. Wing has succeeded in presenting a most interesting aspect of this sculptured head. We have often heard it said, have been guilty of saying so ourselves, that the photographer is not entitled to much credit for a photograph of a statue because the picture has actually been created by the sculptor. A moments thought however will show that this contention will hardly stand up under examination. The photographer has not created the living face, or the landscape which he photographs, any more than he has the statue, so we must face the fact that as far as subject matter goes the photographer does not create directly from his imagination in the sense that the painter may do so. This of course does not imply that the photograph must be simply a record. The photographer can and does, when he is successful, interpret and emphasize the aspect of his subject that seems significant to him, and in so doing he is creating in the esthetic sense. From this we see that regardless of subject matter a photograph advances from record to what is generally, and awkwardly called "pictorial" in the degree in which the photographers contribution of interpretation and emphasis is significant and strong.

This is Mr. Wing's second first award so he is hereby notified of his promotion to the Advanced Class.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Korona View; $9\frac{1}{2}$ " Dagor; $\frac{1}{2}$ " sec. at F:4.5 on Defender XF Pan., with K-2 filter; Defender Velour Black S.



"Wheels and Shadows"
C. F. Adam

with some very exciting convolutions of line, and consequently needs to be fairly strong to hold its own. For that reason it is fun to speculate as to whether the picture would be improved had the foot been encased in a white shoe. This would surely give it added strength as a center of interest for it would then, at least on the toe where the sun strikes, be the highest note in the picture.

Data: $2\frac{1}{4} \times 2\frac{1}{4}$ " Voigtlander Superb; $1/25$ th sec., at F:11, no filter, on E.K. Panatomic, in DK-76; Defender Velour Black in Amidol.

Third Award Amateur Class

■ Simplicity and repose seem to be the key notes in this attractive portrait. Observe how nicely Mr. Calder has handled the arms, and how by using them to carry the outline of the body off to the left has achieved a broader base in support of the head. The engravers have compressed the scale of the print slightly. It does not show in the reproduction but in the print we believe that the face is a shade too dark, and that it would help to very slightly dodge in the two upper corners so that there would be a suggestion of tone in the background. In short the print should be made just about as it appears in the reproduction. Further with all corners in such a high key we would mount the print with a dark toned border.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Auto-Graflex; $8\frac{1}{4}$ " Zeiss Tessar; taken outdoors against the sky; $1/50$ th sec. at F:5.6, on E.K. Port. Pan., in D-76; Defender Velour Black S, in Amidol.



"John"
Roland Calder

Fourth Award
Amateur Class

■ Mr. Beckett has worked out an interesting and well balanced composition and has successfully overcome the several technical difficulties involved in photographing glassware. Our only objection to the print is in regard to the band of light that runs across the picture at the conjunction of the foreground and background. We do not mean that this area should not be illuminated more brilliantly than the rest, for if it were not the picture would lack variation in tone. It does seem however that it would be better if the effect were not quite so pronounced for as it stands it has a tendency to suggest a weak area in the picture. This might have been corrected by spreading the brightly illuminated area a bit by diffusing the light source.

Data: 5x7" Seneca View; Zeiss Tessar Ic lens; 77 sec. on E.K. Process film in D-11, by 275 watts Mazda light; E.K. Opal A, in M.Q.



"Glass"
F. M. Beckett

Fifth Award
Amateur Class



"Bollards and Lines"
Walter H. Kenneth

■ This picture looks cold enough to make us distinctly sorry for anyone who would have to take this ship to sea on such a day. The center of interest is obviously the two large posts in the foreground, which from the title we guess should properly be called bollards. This theme is nicely echoed by the bollard and line in the background, and the third bollard in the upper left introduces a desirable variation. Snow texture is well maintained, and although the sky was overcast Mr. Kenneth has succeeded in bringing out the delicate touches of light on the snow, which is evidence of accurate exposure, and proper development. We like the picture better printed reversed as regards left and right for this causes the line which now runs in from the lower right to run in from the lower left, and for us, at least the picture is more easily seen that way.

We believe, however that this is largely a matter of personal preference and is

hardly to be applied as a general rule. What do you think?

Data: Kodak Vollandia; Radionar Anastigmat F:3.5; 1/5th sec. at F:16, on E.K. S.S. Pan., with yellow filter, developed in "Nograin"; 3 P.M. in January, cloudy sky; Agfa Brovira Royal medium, in D-72.

Monthly Competition

Contributing Clubs

Aluminum Camera Club (New Kensington, Pa.)
 Amateur Camera Club of Buffalo
 Artisans Camera Guild (Los Angeles)
 Baltimore Camera Club
 Bellingham (Wash.) Camera Club
 Blue Bell Camera Club (Detroit)
 Boulder (Colo.) Lens Club
 California Camera Club
 Camera Club of Ottawa
 Camera Club of Richmond (Va.)
 Cleveland Central Y.M.C.A. Camera Club
 Cleveland Photographic Society

East Bay Camera Club (Oakland, Calif.)
 Erie Camera Club
 Fort Dearborn Camera Club
 Golden Gate Leica Club (San Francisco)
 Hamilton (Canada) Camera Club
 Japanese Camera Club (San Francisco)
 Los Angeles Camera Club
 Miniature Camera Club of New York
 Oregon Camera Club
 Photographic Society of San Francisco
 Pictorial Photographers of America
 San Jose Camera Club
 Telephone Camera Club of Manhattan
 Toledo Camera Club
 Washington (D.C.) Pictorialists

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class: Edward Bafford, for the Baltimore Camera Club; Kichiji Kojimoto, for the Japanese Camera Club; R. Owen Shrader, for the Los Angeles Camera Club; Sophie L. Lauffer, for the Miniature Camera Club of New York; and John Muller, for the Pictorial Photographers of America.

The following won points for their clubs in the Amateur Class: William E. Wing, C. F. Adam, and Roland Calder, for the Photographic Society of San Francisco; and F. M. Beckett, for the San Jose Camera Club.

Standing of Clubs

Large Clubs Advanced Class

Los Angeles Camera Club	14
Pictorial Photographers of America ...	9
Camera Club of Ottawa	9
Fort Dearborn Camera Club	8
Photographic Society of San Francisco	4
Montreal Camera Club	3
Miniature Camera Club of New York ..	3
American Soc. of Cinematographers	1

Small Clubs Advanced Class

Erie Camera Club	5
Baltimore Camera Club	3
Japanese Camera Club	2

Large Clubs Amateur Class

Photographic Society of San Francisco	19
California Camera Club	7
Los Angeles Camera Club	3
Camera Club of Ottawa	1
Schenectady Photographic Society	1

Small Clubs Amateur Class

Washington Pictorialists	9
Hamilton Camera Club	7
San Jose Camera Club	2

(Continued from Page 189)

and it works against the eye's moving easily into the picture. There will be much less agreement as to what we should do about this. Either the picture must remain as it stands or we must trim from the left until the window is eliminated. Trimming will be objected to for two reasons. First, because it removes the strongest note in the picture, leaving it without a strong center of interest, and possibly a suggestion of monotony for that reason. Second, because desirable print proportions are destroyed. In reply it is logical to point out that with the trimming the sealed up doorway gains much in strength and constitutes as much of a center of interest as seems necessary, and that as far as print proportions are concerned there is nothing to prevent our trimming enough from the bottom to re-establish the present relationship. On the whole we feel that trimming from both the left and the base is advisable.

Data: $2\frac{1}{4} \times 2\frac{1}{4}$ " Rolleiflex; F:3.5 lens; 1/25th sec. at F:8, 5:30 P.M. in Aug.; E.K. Verichrome; Chloro-bromide print.

An explanation of the function and rules of these competitions will be sent free on request, or they may be found on Page 600 of the December 1934 issue.—Ed.

Advanced Competitors

The fact that your name is included in the lists below acknowledges receipt of your prints and signifies that they were included in the judging.—Ed.

Edward Alenius, Jamaica, N.Y.
 Jack Arnold, East London, S. Africa
 F. G. Ashton, Ottawa, Canada
 Ray Atkeson, Portland, Ore.
 Edward Balford, Baltimore, Md.
 Shanti Bahadur, Cleveland, Ohio
 Alex Bahnsen, Yellow Springs, Ohio
 H. C. Benedict, Berkeley, Calif.
 E. W. Blew, Whittier, Calif.
 Charles Clayton, Jr., Baltimore, Md.
 N. Wright Crowder, Baltimore, Md.
 Fred E. Crum, Spring Valley, N.Y.
 M. K. Curtis, Oakland, Calif.
 Bruce W. David, Cleveland Heights, Ohio
 Fred Doudna, Washington, D.C.
 Christine B. Fletcher, San Francisco, Calif.
 William Gram, Cleveland, Ohio
 Lionel Heymann, Chicago, Illinois
 C. M. Johnston, Ottawa, Canada

Frederick Kaiser II, Madison, Wis.
 H. F. Kells, Ottawa, Canada
 Kichiji Kojimoto, San Francisco, Calif.
 Sophie L. Lauffer, Brooklyn, N.Y.
 H. Luscombe, Los Angeles, Calif.
 Joseph Marzani, Chicago, Ill.
 John C. Moddejonge, Cleveland, Ohio
 John Muller, New York, N.Y.
 John R. Murray, Cleveland, Ohio
 P. H. Oelman, Cincinnati, Ohio
 R. D. Pestonji, Bangkok, Siam
 George H. Phillips, N. Hollywood, Calif.
 Helene Sanders, A.R.P.S., New York, N.Y.
 John Schiede, Jr., Richmond Hill, N.Y.
 R. Owen Shrader, Pasadena, Calif.
 Dr. Max Thorek, Chicago, Ill.
 W. J. Turnbull, Ottawa, Canada

• Denotes prize winners

Amateur Competitors

Charles W. Ackerman, Cleveland, Ohio
 C. F. Adams, Berkeley, Calif.
 Raymond W. Ager, Berkeley, Calif.
 V. Aiyar, Calcutta, India
 Gustav Anderson, Amityville, N.Y.
 W. V. D. Anderson, Ottawa, Canada
 Alex Andrisunas, Chicago, Ill.
 Helen Louise Barham, Nashville, Tenn.
 Stanton Becker, Boston, Mass.
 F. M. Beckett, San Jose, Calif.
 Wm. Edwin Booth, Richmond, Va.
 Lester H. Brubaker, San Jose, Calif.
 R. L. Bulger, Baltimore, Md.
 *Roland Calder, Berkeley, Calif.
 E. H. Cassidy, Shizuoka, Japan
 A. Cherkauer, Buffalo, N.Y.
 Margaret B. Clarke, San Francisco, Calif.
 Paul Clifton, Baltimore, Md.
 Raymond B. Collier, San Francisco, Calif.
 Leonard Davis, Hamilton, Canada
 R. B. Ericsson, Arcadia, Calif.
 James R. Evans, Ocean Beach, Calif.
 Mortimer Friedman, New York, N.Y.
 Jeofilo L. Ganaden, Manila, P.I.
 W. A. Garnett, Altadena, Calif.
 Bill Gibson, Pleasanton, Calif.
 M. C. Gloin, Buffalo, N.Y.
 Ernest L. Gooden, Washington, D.C.
 Alden C. Grant, San Jose, Calif.
 James H. Hall, Willits, Calif.
 J. H. Hansbrough, Tampa, Fla.
 Howard Hazeltine, San Jose, Calif.
 Johanna E. Heim, San Francisco, Calif.
 H. J. Henriques, Oakland, Calif.
 Erwin Herman, Buffalo, N.Y.
 Mary Katherine Higgs, Albuquerque, N. Mex.
 Waino Himotu, Gardner, Mass.
 John H. Holzinger, New York, N.Y.
 Herbert R. Hood, Scotch Plains, N.J.
 J. W. Hubbard, Shafter, Calif.
 J. Albert Hultquist, Washington, D.C.
 E. E. Hutshing, San Francisco, Calif.
 James F. Johnson, Boulder, Colorado
 Rudolph Johnson, Erie, Pa.
 Miss Johnston, Ottawa, Canada
 Harold Karet, Buffalo, N.Y.
 William Karsten, New York, N.Y.
 Walter H. Kenneth, Chicago, Ill.
 Thelma R. Kent, Christchurch, N.Z.
 J. M. Kinniburgh, Detroit, Mich.
 Joseph Koran, Chicago, Ill.
 Howard Kurz, Los Angeles, Calif.
 Virgil S. Land, Chicago, Ill.
 Fred Larson, Worcester, Mass.

Samuel V. Lebowitz, Baltimore, Md.
 A. H. Lomax, Hamilton, Canada
 Hobart M. Lovett, Berkeley, Calif.
 Louis Luh, Washington, D.C.
 A. W. Martin, Hamilton, Canada
 A. Logan Miller, New Kensington, Pa.
 E. A. Murray, Sacramento, Calif.
 R. Nelson, Calumet, Mich.
 Paul Eloy Norine, Denver, Colo.
 Don Kirby Oliver, San Francisco, Calif.
 Frank Ordway, Claremont, Calif.
 J. H. Patterson, Corry, Pa.
 Dr. Harry Peake, Toronto, Canada
 Philip Pinsof, Chicago, Ill.
 Howard R. Porter, Los Gatos, Calif.
 Frank X. Reilly, Pottsville, Pa.
 Ralph Rex, St. Louis, Mo.
 G. W. Richards, Buffalo, N.Y.
 Rolfe L. Roberts, Bellingham, Wash.
 R. E. Schoenberger, Shaker Heights, Ohio
 Lawrence Schreiber, Cleveland, Ohio
 Ray Shawcross, New Kensington, Pa.
 Dr. Will G. Sheffer, San Jose, Calif.
 H. E. Sheffield, Cleveland, Ohio
 Fred Shepard, Los Angeles, Calif.
 John G. Shortridge, San Francisco, Calif.
 Alex R. Silverberg, Cleveland, Ohio
 John S. Simms, Lincoln, Neb.
 J. P. Skillen, Hamilton, Canada
 Warner Smigelow, San Francisco, Calif.
 L. Charles Smith, Washington, D.C.
 Donald G. Stewart, Toledo, Ohio
 H. M. Takahashi, Berkeley, Calif.
 Henry K. Tanaka, San Francisco, Calif.
 W. O. Taylor, S. Norwalk, Conn.
 Thomas M. Thomson, Hamilton, Canada
 George O. Timanus, Philadelphia, Pa.
 Harold E. Timblin, Wheeling, W. Va.
 J. C. Tinkler, San Francisco, Calif.
 E. N. Torbert, San Jose, Calif.
 H. S. Ulan, Mt. Vernon, N.Y.
 Charles T. Vandervort, Palo Alto, Calif.
 S. R. Vincett, Los Angeles, Calif.
 Edward F. Wahmann, New York, N.Y.
 H. E. West, Washington, D.C.
 B. Russell Whitaker, Ithaca, N.Y.
 Earl A. White, Manteca, Calif.
 Frank White, Somerville, Mass.
 Morcan W. Wickesha, Washington, D.C.
 Lewis N. Willman, Washington, D.C.
 *William E. Winc, San Francisco, Calif.
 Dr. Michael Wishengrad, New York, N.Y.

• Denotes prize winners

Correspondence

Competition Comment

Dear Mr. Young:

I was very much interested in the reproduction on Page 93 of your February issue of Mr. James A. Kelly's "In Conference", and your criticism of the print.

I note by the data that the original picture is 11x14, and in my opinion the illustration would indicate that it is a beautiful piece of work. I note in your criticism that the umbrella-shaped object at the right of the print should be eliminated by removing 1" from that end of the print, and that a like amount should be removed from the left end of the print, in the interest of simplification. Would it not be better to spot out the two light spots under the "umbrella" thereby making a solid low tone, rather than trim off 1" from that end of the print, for the spotting of the two light spots would accomplish the same end? Likewise would it not be unfortunate to trim 1" from the left-hand end, for to do so would no doubt remove the dark tone to the left of the vertical masonry, which tone helps to hold the picture together and avoids placing the light tones of the masonry at, or close to, the left-hand edge of the print? It also seems to me that to trim 1" from the left-hand end of the print would have a tendency to allow the sunlight at the base of the masonry at the left to protrude through the left edge of the print, thereby creating an opening, which in my mind would be most unfortunate.

If the print is left alone, with the exception of spotting out the two lights of the "umbrella", the print would still remain 11x14, which is a good dimensional size.

I repeat, that in my opinion, it is a beautiful and well thought out study, and the third figure, in the background, acts as a balance for the two figures standing at the base of the column on which the sunlight is playing. . . .

Very truly yours,
James C. Baker.

About "Por la Manana"

Dear Mr. Young:

In the March correspondence Mr. F. C. Ward gloats at considerable length over what he finds wrong in one of my pictures.

Now, Mr. Ward is at perfect liberty to dislike any or all of my pictures. I like very few of them myself. But when he assigns palpably absurd reasons for his dislike, I find myself slightly annoyed.

In connection with the picture "Por la Manana" he cites my remark in the accompanying article that personality should DOMINATE over an APPROPRIATE background (the capitals are Mr. Ward's) in outdoor portraiture, alleging that the background of this picture is neither subordinate nor appropriate.

The word "appropriate" is, of course, open to interpretation. And the interpretation given will be a pretty fair summary of the quality of the imagination of the person giving it. A certain type might, for example, object to the snaky locks of Medusa as inappropriate because none of his girl friends was so adorned. Personally, I feel that a nude figure well expresses the freedom of mountain, sky and clouds.

I quote Mr. Ward's description of the picture in question: "... a reasonably natural nude study occupying a small center spot; the rest of the page was taken up with an impressive view of impending mountain storm." On this point I have consulted with a large number of my friends (milkmen, gas-meter readers and plumbers) and I discover a unanimous agreement that for normal persons the nude figure could be one-quarter its present size and still dominate over its backdrop of clouds. None but a meteorologist well gone in senility could find the mountain storm (no matter how impressive) the element of preponderating interest.

Mr. Ward complains that he has never

seen a nude on a mountain top. For this misfortune I can only offer him my sincere sympathy. Possibly he looked on the wrong mountain.

Very truly yours,
William Mortensen.

About This Department

Dear Mr. Young:

It is evident WARD is confusing the act of being the "smart alec" with the art of being funny in the last paragraph of his March letter in which, by the way, he gives himself away.

I don't doubt for one minute, Mr. Editor, that your only reason for publishing this letter was to see if the readers care for this sort of thing.

Mr. Doolittle's article, I agree, was clever. It provided shall I say "comic relief" to the usual seriousness of **Camera Craft** material. Mr. Doolittle's article was in good taste and when intended to be amusing **was** amusing. I enjoyed its informal vein.

I am willing to grant Mr. Mortensen the inconsistency WARD points out, principally because I recognize Mr. Mortensen as a photographer who "has arrived" and who has, as far as I, personally, am concerned, my full permission to exercise his "poetic license" (if I may use the term) as freely as he wishes so long as the result is pleasing and satisfying.

Anything bearing the name Mortensen, however unconventional, holds pleasure and satisfaction for me. . . .

May I suggest therefore that in future "**Correspondence**" be devoted to matters photographic, or at least bearing more directly upon the material in **Camera Craft**. . . .

Sincerely yours,
Ken W. F. Cooper.

We feel that Mr. Cooper's last paragraph is a justified criticism of some of the contents of this department in the past, including parts of his own letter. From this time forward we request contributors to write on Photography, rather than Photographers.—Ed.

Licensing Ordinances

We reproduce below a letter of protest intended for members of the Pennsylvania Legislature, regarding a bill at present before that body. The objections to the bill are apparent in the letter, and although we have had no opportunity to verify the claims made, this comes to us from a reliable source. **Camera Craft** grants the right of the photographic profession to regulate its business as it deems best, but cannot see that this includes the right to interfere with legitimate activities of the amateur. Since Art began amateur artists have had the right to sell their products as they choose, and instead of agreeing to a restriction of this right, we feel that the sale of salon prints should be encouraged in every way. Residents of Pennsylvania are advised to protest this bill promptly. Copies of the letter reproduced below may be obtained from Klein and Goodman, 18 So. 10th St., Philadelphia, Pa.

Honorable Sir:

As a voter and an amateur photographer, I wish to protest the passage of Penna. House Bill No. 798, Session of 1935 as introduced by Mr. Cohen on February 12th, 1935.

While primarily intended to protect professional photographers and the public from fraud, practiced by unscrupulous and irresponsible persons, it, nevertheless, contains a provision which will do irreparable injury to the art and science of photography and prevent any amateur photographer from selling a single picture which he makes as an amateur by subjecting him to a large fine. An amateur cannot sell a single picture unless it has been exhibited and a price for such reproductions is stated in the catalogue or other printed matter of such exhibition.

The present advanced state of the art and science of photography is due almost entirely to the money and time spent by the amateur and the experiments made by him and if he is to be prevented by a Law from selling any prints that he may make, you can readily understand that he could not afford to continue his experimental work.

This Bill in its present form serves no purpose other than to create a monopoly in the photographic field among a group of so called professional photographers and I, as one of many thousands of amateur photographers interested in the art and science of photography simply as an avocation, wish to register my objection to the passage of the Bill in its present form.

Yours respectfully,

Club Schools

Dear Sir:

The writer, as Educational Secretary of the Cleveland Photographic Society, would like to get in touch with school secretaries of other clubs, with the idea of exchanging information regarding educational work in photographic societies.

I am very definitely of the opinion that this is an important part of the functions of any camera club, and would like to see it given more general recognition than it now seems to receive. What do you think about it?

The C.P.S. has for a number of years conducted such a school for the benefit of its members; and it may be that other clubs could find something beneficial in our experience. I am sure that we could derive a lot of good from theirs.

There is now no clearing house for such information, no place where a small club that may desire to undertake such a program can learn anything regarding the work of other societies. I believe that some such central source of information would be helpful. Perhaps it could be done thru the columns of the magazines or perhaps thru the medium of the Photographic Society of America.

Your comments and co-operation will be much appreciated.

Very truly yours,

E. J. Butchart

Educational Secretary,
Cleveland Photo. Soc.
2073 E. 4th St.
Cleveland, Ohio.

Camera Craft heartily agrees with Mr. Butchart that an exchange of ideas and experiences between clubs would surely be beneficial to all. Camera Craft will gladly do all that it can to put those

seeking information in touch with each other through the medium of this department, but feels that this is a function that can best be handled by the Photographic Society of America, and calls the attention of the officials of that organization to this suggestion.—Ed.

Pure Photography

Dear Mr. Young:

In the March **Camera Craft** is an illustrated article on "Pure Photography". In former articles certain writers have stressed the importance of true tonal quality being essential to this form of photographic art. It is in this regard that I would like further information.

The first picture, of the Sierras shows a pale blue sky as inky black and foreground rocks, which might well be black, as gray; the distant cliffs the same tone. The whole thing as flat as the back of a pie plate and decidedly top heavy with its black sky.

The view by Weston shows some effort at composition, but the top of the hill is darker than the base and the whole thing has only three tones in it, black, less black and white. The others are on the same order.

It may well be true that the work of the camera can be best shown in sharp outline, but why this upsetting of all previous ideas regarding art feeling?

Do photographers know more about art than the great painters. We are told the rules of composition are out of date; all that is necessary is good taste. Upon what basis do they decide it is or isn't good taste?

My reason for being interested in this matter is, that with a good many others, I have spent years of effort helping to put photography on a dignified art basis, that I dislike to see any new ideas advanced which will certainly have a tendency to discredit all camera artists work, if not make it appear positively ridiculous as art in the eyes of true art critics.

This kind of photography is more the work of an Artisan than that of an Artist.

Of course there are radical artists who like anything different from what has

been, but I doubt if their opinions will last.

I can well understand Pictorial Photographers becoming disgusted with incompetent judging by salon juries, but that is not a good reason for going sour on an art that is accepted by the best art galleries in the world.

Sincerely yours,
G. H. S. Harding.

Mortensen Portfolio

Dear Mr. Young:

I want to take this opportunity to tell you of my extreme delight over the Mortensen portfolio which I received just after last writing to you. Mrs. Funaro and all our friends who have seen that fine set of prints agree with me that the portfolio is the finest and most beautiful small collection of photographic prints we have ever seen. We are proud to own same. It is because of this reaction that I place with you an advance order for a second Mortensen portfolio, when and if same is put on sale.

Sincerely yours,
JOHN FUNARO,

**Portfolio #2 is now ready, consisting of
20 prints—price \$10.00.—Ed.**

Print Development

Dear Mr. Young:

The president of the Aluminum Camera Club in this city has asked me, as one of the directors of the organization, to thank **Camera Craft** for the loan of the traveling print exhibit which we recently saw.

In a letter to the club which accompanied the exhibit you asked to know how the club received the prints. This can be very simply answered with the fact that the exhibit brought one of the best membership turnouts in several months.

In comparison with the usual print interchange exhibits your set of prints was outstanding and we all enjoyed viewing them.

It may interest you to know that the prints made by some of the "unknowns" pleased most of us more than the productions of the "names". We are singularly unimpressed by the F.R.P.S. after a print makers name.

This is a personal criticism of the prints and a criticism which I think can well be applied to the bulk of amateur work. The prints don't always "carry" well—I mean they lack the clarity and depth that is possible with photography. I am not pleading for what is known as a "nice snappy print" but rather for a print that has had exactly the correct exposure and precisely the correct time of development in a developer expressly suited for the paper used and **at the correct temperature**. Most Japanese amateurs produce prints that fill this qualification but the average American is content to guess at two vital factors in the making of a real print—developer temperature and time of development. I have used enough bromide paper to paper the walls of a good sized house and have produced nothing in the way of a decent technical print until recently when I started using a clock with a large second hand and a thermometer.

Faced with the necessity of reproducing prints I am sure that you will agree with me on this technicality. Every month you must see several prints that would have been immeasurably better if the maker had only taken the care with his print that he did in producing his negative.

It would be an excellent thing for the advancement of amateur photography if every worker could somehow be forced to learn the really simple fundamentals of print making and were forced to make prints for the critical eye of the photo-engraver.

Nothing is more miserable looking than a bromide print which has been developed for three minutes in a standard MQ developer at a temperature of 60 f.—or the same print developed for one minute in a solution at 80 f.—and yet we have all seen plenty of potentially good pictures which have been ruined by just such treatment. To me it is the besetting sin of amateur (and some professional) photography.

Yours very truly
Aluminum Camera Club
by John Nichols.

Photographic Digest

Dr. H. D'Arcy Power, F. R. P. S.

Perception and Ideals

This month two articles have appeared that I wish every man who uses his camera to a serious purpose could read. An editorial in the B.J.P. for Jan. the 4th, entitled "Perception", the power of seeing the object as it is, as it is desired, and as it is likely to be rendered. The second is the foreword to this years edition of the British Journal Photographic Almanac by that veteran photographer Henry M. Bennett who in the department of pictorial photography pertinently asks "Whither are we drifting?" The Digest has for the most part confined itself to reporting and criticising technical advances, but the value of advances is conditioned by the use or desirability of their products. Take for instance the almost daily announcements of advances in the photographic representation of color, while at the same time perception and science equally show that the colors the eye perceives are not those that the lens transmits and never can be, ergo the technical advances are discounted so far as nature is concerned, and as no two people perceive exactly the same colors individuality is also excluded. This still allows those falsely colored things to have possibly a prettiness that pleases the uncritical majority. As every reader cannot refer to the articles in question I quote a few of the pregnant passages. The writer of "Perception" says:—"One of the most difficult things to acquire is the capacity of appreciating and estimating how a subject will appear when translated into monochrome and presented in the form of a print. And yet it is an essential quality in all those who desire to be successful photographers.

It is not always a case of purely artistic ability, nor even a knowledge of composition. However keen may be the photographers artistic perception in a general sense, it is only by patient training and observation that he can acquire the fac-

ulty of realizing exactly what the result of an exposure will be. He may consider that he has a perfect negative, and from the purely technical point of view that may be correct. But still, considered as a satisfactory representation of the subject, whether as portrait or landscape, it may be very disappointing.

By satisfactory representation we mean to convey that a print should be satisfactory in the artistic sense. It should be pleasing in its composition, in the arrangement of its main features, the accentuation of the principal lights and shades, and most of all in the balance of its tone values. This last part is the most important of all, and it is in this respect that the final print is most likely to be disappointing."—The reason for this lies largely in the fundamental inability of the normal plate to truly record tone values if these be associated with contrasting colors. A dark blue cross on a bright red background appears in a print reversed, a light cross on a dark background, while the panchromatic plate may give the black sky above brilliantly lighted houses or landscapes that unfortunately too often gain access to our exhibitions. Here the writer says:—"Patience is a quality that is essentially necessary in studying any subject, and in acquiring the art of studying. But equally the faculty should be cultivated of making an exposure without a moment's hesitation directly that the correct instant has arrived, so as to seize the desired effect in landscape, the critical point in technical work, or the characteristic expression in a portrait. It is in this that true perception is vital." The writer proceeds to argue that while the worker must possess a perfect technique, it does not follow that it shall be in strict accordance with theoretical laws, he says:—"An artist must necessarily be an impressionist,—it is his power of perception of the possibilities of a subject that make him an impressionist in spirit;

and in his work if he has the power of transmitting his impressions to others." There follows a warning against being too much influenced by color that tends to prevent him realizing how his print will appear in monochrome. The article ends with a warning against the absolute trust in color corrected plates in the studio and especially in groups where difference in color value of the constituent figures must be perceived and provided for in the composition.

Henry W. Bennett strikes a different, tho connected note, in his Article "Modern Photography", and his very pertinent question "Whither?" "The present trend of Photography is, in many cases, of such a nature that all lovers of art, all who love beauty, pause instinctively to think. The cubists have been able to secure a large following for their crudities in all forms of art. Their influence is seen in pictures, in architecture, in sculpture, in decorative designs for the home, and in all forms of art or decoration. But it is not the cubists alone in graphic art who have exercised this influence. Similar crude impulses have influenced music, and beautiful combinations of melody and harmony have been displaced by vastly inferior work on the plea that the latter was "original". There seems to be a craze for the worship of ugliness instead of, beauty. Again:—"No one who desires progress would ever decry originality. But crude

departures from normal or beautiful works are not originality. No man who sets out with the fixed object of producing something original ever achieved originality. Originality is the unconscious expression of personality, and is not attained by striving to be original. The man who produces really good original work is the man who possesses true creative artistic instinct and expresses just what he feels." There follows a sharp denunciation of the weary-some copying of other mens works. How many combinations of hoops and contorted nudes have we had to suffer since the first perpetrator set it loose on the Salons? But to continue:—"There is one quality that confers value on any work of art whether it be a photograph, a painting, a piece of music or any other work of creative art. And that quality is that evasive and subtle thing, which is so difficult to define in set terms called Personality. No amount of labor, no amount of painstaking effort can atone for the absence of the expression of personality. I would contend, too, that something more is essential in a work of art. It must possess charm and beauty. Some of the so-called modern tendencies are a return to the work of years ago. They are retrogressive rather than progressive." The point is exemplified by photographs showing the external identity of the tall serial houses of a century ago and the "packing case" models of today.

Club Notes

Spokane Camera Club has Traveling Show

The Spokane Camera Club, which is strictly an amateur organization, was formed in May 1932. The club was composed of ten charter members and during the past two years, ten more enthusiasts have been added to this live-wire organization. Our meeting date is always the first Friday of each month, and visitors are welcome at any time.

We now wish to announce that we have

moved into larger quarters, in the Hutton Building, where we will have better facilities for print exhibitions and complete darkroom equipment. We are, at present, working on our third annual exhibit and also enjoying a print contest among our members.

The Club would like to take this opportunity to inform other clubs of our first traveling salon. We will soon be able to announce the dates at which this exhibit

may be received by the clubs so desiring it. We will appreciate very much hearing from the many clubs over the United States, who would care to receive this exhibit.

The officers of the Spokane Camera Club are: Thomas St. Germain, president; Paul Flint, vice president; Everett Kirkpatrick, secretary-treasurer. All communications should be addressed to the Spokane Camera Club, 725 Hutton Building, Spokane, Washington.

Photography as a Hobby

Photography as an ideal leisure time pursuit will be dramatized in a series of displays at the Hobby Roundup which will be held from May 1st to 11th inclusive in Commerce Hall, Port Authority Building, 8th Avenue and 15th Street, New York City under the auspices of the Leisure League of America. The ten day exposition which will show the nation at play will be an attempt to revive the theme of olden times that "May Day is play day" and not a day for radical demonstrations, according to James S. Stanley, president of the League.

The exposition as a whole will reveal the leisure time possibilities of some fifteen major classifications of hobbies including, in addition to photography—athletics, sports and physical culture; collections; community activities, including the drama and the dance; domestic arts and crafts; gardening; indoor games; lake, river and seashore activities; mechanical handicrafts; mountain and country activities; music, pets for pleasure and profit; reading and writing and travel.

Non-commercial exhibits in the photographic division will include those set up by the Camera Club, New York; the Miniature Camera Club, Brooklyn; the Amateur Cinema League, New York; and the Camera Club of Brooklyn Institute of Arts and Sciences, of which Dr. Adolph Fassbender is the head. The Camera Club of New York, which is one of the advisory organizations of the Exposition, is planning an amateur photographic exhibition. Among those who will speak on photography during the Show is William M. Strong, of Batten, Barton, Durstine

and Osborn, Inc., author of "Photography for Fun", recently published by the Leisure League of America.

Inquiries concerning the photographic display should be addressed to Edward Delbyck, division manager in charge of photography of the Hobby Roundup, at 232 Madison Avenue, New York. The management of the Show is under the direction of Roberts Everett Associates, at the same address.

Lugene Miniature Camera Salon Available

The exhibition of prize winning prints from the Third Annual Miniature Camera Salon sponsored by Lugene, Inc., will open in their New York Galleries at 600 Madison Avenue on April 5, 1935, and will remain there until the end of that month. The exhibit will then appear in the various camera clubs throughout the country. Club Secretaries should write for booking dates to Lugene, Inc., 600 Madison Ave., New York, N.Y.

Photographic Congress

The Ninth International Congress of Scientific and Applied Photography will be held in Paris, France, July 7-13, 1935. Any one interested in attending the Congress or in learning of their proceedings, or in submitting papers to it, should communicate with Dr. Walter Clark, Research Laboratories, Eastman Kodak Co., Rochester, N.Y.

The New Rolleiflex Salon

An exhibition of Rolleiflex prints made by Rolleiflex photographers will be shown on May 15 at the new enlarged display and show rooms of Burleigh Brooks.

Col. Edward Steichen, internationally renowned authority and recognized as one of the world's leading photographers, will constitute a one-man jury to judge the prints submitted to the 1935 Rolleiflex Salon.

A number of awards will be made to contestants whose work is adjudged outstanding by Col. Steichen. These awards will be comprised of cameras and other photographic materials and successful participants may select any type of camera or photographic accessory which they desire.

All in all, there will be approximately

45 awards amounting to \$500 in value. The first award will be a first-class eighteen-day Caribbean cruise, fully paid, on the beautiful SS Pastores, of the Colombian Steamship Lines, Inc.; the second \$50, the third \$25 and a number of smaller awards.

Contestants will be limited to 4 prints each. Sizes of mounts must not exceed 16x20 inches. Prints need not necessarily be enlarged.

The exhibition is open to everybody. Further details, labels, etc., from your dealer or write to: Burleigh Brooks, 127 W. 42 Street, New York.

Clubs Get Together

On Feb. 3, the Miniature Camera Club of Oakland, (Calif.) was the guest of the Photographic Society of San Francisco, on a field trip to the Durant Estate, in the hills back of Oakland. From all reports the idea proved most popular and this is supported by the fact that a second joint field day was held on February 17th at which the East Bay Camera Club, and the Photographic Society of San Francisco, were the guests of the Miniature Camera Club of Oakland.

American Invitational Salon

The first American showing of the American Invitational Salon, opens April 14th at the National Academy of Design, New York. It will subsequently be shown at the Smithsonian Institution in Washington May 20th to June 20th, and after that at dates yet to be announced in Chicago, Rochester, and San Francisco. It will be recalled that this exhibition was originally assembled for the Royal Photographic Society by a committee headed by Joseph M. Bing, F.R.P.S., and hung at the Royal Photographic Society's rooms last December. It has earned the distinction of being the first photographic exhibition to be hung by the National Academy of Design, and by obtaining that honor has done much to further the cause of photography.

Camera Craft Traveling Salons

The Camera Traveling Salons are currently on exhibition at the following clubs:

Group I

Washington Pictorialists, Washington,

D. C., Mar. 27th-April 7th.

Glenwood Camera Club, Philadelphia, Pa., April 9th-19th

Brooklyn Institute of Arts and Sciences, Brooklyn, N.Y., April 21st-May 1st.

Newark Camera Club, Newark, N.J., May 3rd-13th.

Group II

Camera Pictorialists of Kansas City, Kansas City, Mo., March 30th-April 9th.

El Paso Camera Club, El Paso, Texas, April 13th-23rd.

Austin Camera Club, Austin, Texas, April 27th-May 4th.

Group III

Delaware Camera Club, Wilmington, Del., April 4th-11th.

Baltimore Camera Club, Baltimore, Md., April 15th-27th.

Photographic Society of Philadelphia, Pa., May 1-30th.

Group IV

St. Paul Camera Club, St. Paul, Minn., Mar. 27-Apr. 10th.

Camera Kraft Club, St. Cloud, Minn., Apr. 14-21st.

Photo Club of the Univ. of Wisc., Milwaukee, Wisc., Apr. 25-May 8.

Novel Leica Exhibit

E. Leitz, Inc., 60 East 10th Street, New York City, announces an unusually special and attractive display of the world's finest salon LEICA prints. The actual photographs of outstanding LEICA cameraists such as Dr. Paul Wolff and other European experts are a feature of the show. Supplementing the European pictures will be a number of examples of work by recognized workers in the United States such as Rudolf Hoffmann, Harold Harvey, Clarence Slifer, John Moss, Thomas McAvoy, Henry Lester, Ivan Dimitri, and others. There will be three hundred superb photographs in the collection, the first time such an impressive gathering has been made available at one time.

At the exhibit will also be shown the latest accessories for the LEICA Camera. Schedule for the exhibition is as follows:

New York—Tuesday, April 23rd to Friday, April 26th.

Philadelphia—Tuesday, April 30th to Thursday, May 2nd.

Washington, D.C.—Monday, May 6th to Tuesday, May 7th.

Pittsburgh—Friday, May 10th to Saturday, May 11th.

Detroit — Wednesday, May 15th to

Thursday, May 16th.

Chicago—Tuesday, May 21st to Saturday, May 25th.

Boston—Tuesday, June 4th to Thursday, June 6th.

Notes and Comments

Big Bargain Catalogue

The Central Camera Co., has just issued a mammoth 132 page bargain catalogue, wherein is listed a complete line of photographic accessories and supplies, besides hundreds of values in practically new and used cameras, and lenses. Also included in the book is a valuable article on modern development. A copy of the book may be obtained without charge by writing to the Central Camera Co., Dept. CC-4A 230 So. Wabash Ave., Chicago, Ill.

Fresson Paper

Unquestionably the Fresson process is one of the most beautiful printing mediums available to the photographer. The method gives wonderfully rich velvety blacks (other colors are available) and there is no sheen to the surface of the print. This is due to the fact that friction plays a part in the development of the paper, so that the surface is not absolutely smooth but slightly roughened like the surface of the finest sand paper imaginable. The process is not difficult to master being a form of carbon printing, varying chiefly in the fact that a mixture of saw-dust and water is used for development. The process would be in much wider use today if it were not for the fact that up to now supplies have been difficult to obtain. Happily this unfortunate situation is now remedied and orders will be promptly filled or information supplied by The Fresson Agency, 15918-84th Road, Jamaica, N.Y.

Ilford Products

The R. J. Fitzsimmons Corp., 75 Fifth Ave., New York, N.Y., are the importers of the excellent line of Ilford products among which are included the exceptionally reliable Ilford films and plates. Space

does not permit a description of the numerous emulsions available but a note to the above address will bring full information without charge.

Hammer Plates and Films

If you have a difficult photographic problem that requires a plate or film made definitely for exacting work, investigate the fine all around line of emulsions, on both plates and films offered by the Hammer Dry Plate Co., Ohio Ave., and Miami St., St. Louis, Mo.

We have noticed of late that there are many new firms taking up Photo-Litho printing. Do those individuals know that Hammer makes a film specifically for their use. The emulsion is known as Offset. Write to the above address for full information.

Haloid Nomis

For the Photo-Finisher, the Professional, or for amateur contact printing, Haloid Nomis offers clean, brilliant, economical prints, and reliable results. A special trial offer for the Photo-Finishers is made in the advertising pages of this issue—don't miss it.

Verebest Products

Verebest is the brand name for an extensive list of quality prepared photographic chemicals. There is something in the line to fit your every need. Picking at random we might mention the Varitone Developer for contact or projection papers. This gives warm tones by direct development ranging from warm black into orange. The method of development is identical to that used for straight black and white prints. If you wish warmer tones increase exposure time and dilute the developer, it is just as simple as that. Western agents for Verebest products are

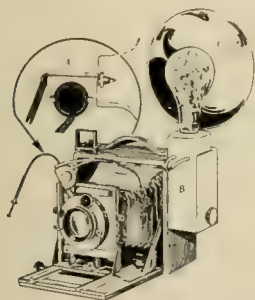
The T. H. Wilton Co., 717 Market St., San Francisco, Calif., who carry a complete stock and will fill all dealer orders promptly. Home office for this line is the Photo Crafts Laboratory, Wantagh, L.I., N.Y. Write to either of the above addresses for a descriptive circular describing all of the Verebest products.

Used Lens Bargains

The Camera Shop, 145 Kearny St., San Francisco, Calif., is specializing this month in bargains in used lenses. If you are looking for a good used lens, refer to the Camera Shops advertisement in this issue. If you do not find what you want listed there drop into the store and ask Mrs. Alice Argus Brady if she has it, or write to the above address.

Kalart Photoflash Synchronizer

Precise mechanical adjustments are responsible for the popularity and reliability of the modern miniature camera, and the popularity of the Kalart Photoflash Synchronizer with news cameramen throughout the country is based on the same factors. This device will synchronize from one to three flash bulbs with any shutter speed up to 1/1000th sec. and al-



ways open the shutter at the moment when the flash is delivering the maximum of light; "bulb" exposures may also be made, in which case the shutter is not used. In addition to what has already been said, the Kalart possesses a number of unique features that make for convenience in operation. A safety switch to prevent accidental firing of the flash; a dial to

set for "slow" or "fast" bulbs; and a special lamp socket which makes possible the rapid insertion or removal of bulbs. The Kalart Company 58 Warren St., New York, N.Y., will send complete descriptive literature on request, or you may inspect the Kalart at your dealers.

Photo Utilities, Inc.

Mr. Joseph M. Bing, F.R.P.S., the man behind Photo Utilities, Inc., is too well known and too well liked to need any introduction here. His name and reputation guarantees the quality of the goods he offers. Among the numerous items which he is now importing are the popular Plaubel cameras, the new Makina, and the Makinette (advertised elsewhere in this issue), the reliable photo-electric exposure meter, Photoscop, the Piccochic camera, the Instoscope visual exposure meter, and a large number of other items too numerous to mention here. See these items at your dealers or write to Photo Utilities, Inc., 152 W. 42nd St., New York, N.Y., for descriptive literature.

Willo Comic Masks

The Willo Comic Masks will enable you to play a number of amusing jokes on your friends or they may be used to make humorous greeting cards, place cards, invitations, etc. The mask supplies the idea and you simply select a negative of one of your friends to whom the joke would logically apply. The masks are in reality paper negatives, with a blank space left in each which is used to print in a negative from your own collection. A supplementary mask is supplied to protect the portions of the paper printed through the comic mask, during the second printing from your own negative. The procedure is very easy and anyone who can make contact prints can turn these comics out just as easily. Full directions accompany each set of masks. At your dealer or from Willoughby's, 110 W. 32nd St., New York, N.Y.

Clarence H. White School

If our readers would like a tip which we are not at all sure that Mr. White will thank us for mentioning, it is this. The

new prospectus of the Clarence H. White School of Photography is such a beautiful piece of typography, and so interestingly illustrated that it is well worth having even if schools are the last thing in the world you are interested in. All of the pictures shown are the work of present and past students of the school, and are the most convincing proof of the value of the instruction offered. Did you know that Anton Bruehl, perhaps the leading commercial photographer of the day was once a student at White's and is now a member of the advisory board along with such famous photographers as Edward J. Steichen, and Eugene Hutchinson? The book gives in detail all of the activities of the school and they are many. In case you want to act on our tip the address is 460 West 144th St., New York, N.Y.

Hugo Meyer Lenses

Miniature camera owners who are interested in long focus lenses are advised to investigate the new Tele-Megor F:5.5 which has a focal length of 7". That is magnification with a capital M, and the lens synchronizes with the Leica focusing range finder. Write to Hugo Meyer & Co., 245 W. 55th St., New York, N.Y., for full information.

William O. Hammer

Mr. Hammer is an expert optical technician, and camera repairman, and is also unusually talented in the construction of special accessories for cameras or supplementary equipment. It is not so fully realized that at his place on the fourth floor at 153 Kearny St., San Francisco, Calif., he carries a complete line of Zeiss Ikon cameras for sale and exchange. Drop in and get acquainted. You are assured of a courteous welcome and your repair or construction problems will be given expert attention.

Northeast Miniature Slide Mats

Those Leica or Contax owners who are now using the new Dufaycolor or Agfa Ultracolor reversible color films for projection purposes will find themselves in need of Slide Mats so that they may bind their films into slides and thus protect them from wear and also give them a much more finished appearance on the screen. The above mentioned product is

manufactured to fill that need. Write to Burleigh Brooks, 127 W. 42nd St., New York, N.Y., for full information or see them at your dealers.

Combination Printer and Enlarger

A new product offered this month in our advertising section, is the Allen combination printer and enlarger. The unit consists of sturdily built contact printer which will accommodate negatives up to 8x10 inches with automatic self-closing switch. The housing of the contact printer also serves as the light source for the enlarger part of the unit. Thus, in one compact, efficient piece of equipment the amateur or professional can perform all darkroom printing services for a modest expenditure. Details concerning the enlarger-contact printer may be obtained by writing Allen's Camera Exchange, 137 Fulton St., New York City.

Contax Exhibit

Carl Zeiss, Inc., held open house in New York the last part of February showing over 350 Contax projections—most of them excellent pictorially and some of them astounding demonstrations of what a good bread-and-butter camera the Contax is. The time when a mini-camera was more of a trick than anything else seems definitely passed.

Among the bread-and-butter exhibitors were Clarence Stieglitz, World-Telegram staff photographer who makes his living candid shooting in theatrical "undressing" rooms; W. E. C. Haussler, who conceals his Contax beneath microphones and such at the Radio City broadcasting studios getting unposed views of Al Jolson, Rudy Vallee, Paul Whiteman, etc.; some unnamed genius working for International News Service who had a splendid series of Flemington trial shots; Bob Leavitt, who makes surgical studies, Leo Pavelle, who does summer resort and theatrical illustrating for advertising accounts.

First honors for grainlessness goes to the Pavelle 3 foot by four foot Contax projections of which there were four at the local Zeiss exhibition. Honors for pictorial beauty belong to G. S. Cavenish, Philadelphian, whose soft focus studies and unique lettering brought much favorable comment.

Showing the work of eighteen workers, it is understood the show will be traveled according to the schedule given in our March issue with the possibility of additional showings later.

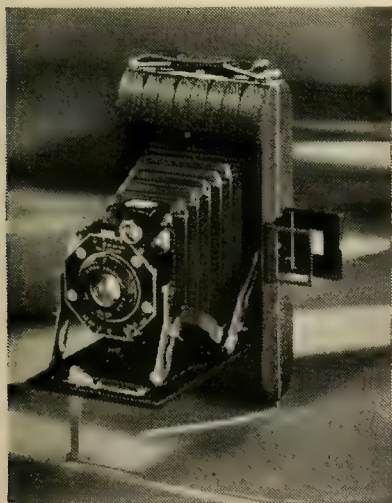
Eastman Announces New Kodak Juniors

With the announcement of the new Kodak Juniors, Six-16 and Six-20, the Eastman Kodak Company bridges the price gap between its popular Jiffy Kodak and the Kodaks Six-16 and Six-20, the latter introduced early in 1932.

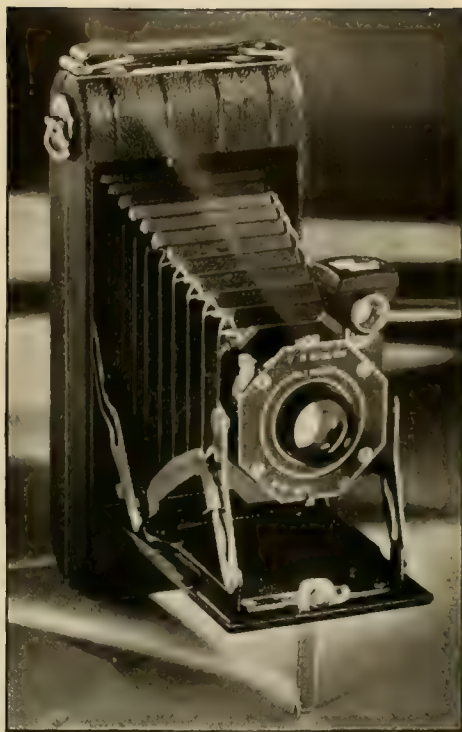
Low in price and smartly styled, the new Kodak Juniors should be readily accepted by those who have advanced to a point where they want a more versatile camera than the Jiffy Kodak but haven't been financially able to purchase a Kodak Six-16 or Six-20.

There are four Kodak Juniors — two Six-16's ($2\frac{1}{2} \times 4\frac{1}{4}$), two Six-20's ($2\frac{1}{4} \times 3\frac{1}{4}$). Each model has a choice of lens equipments, the Kodak Anastigmat f.6.3 and the Kodak Doublet. All f.6.3 models are equipped with direct-view, eye-level finders in addition to the conventional waist-line brilliant finders.

Kodak Junior Six-16 f.6.3 has a focal length of 126 mm., a No. 1 Kodex shutter with speeds of 1/25, 1/50, and 1/100 second, time and bulb action, a revolving focusing mount with distances marked from



Kodak Junior Six-20



Kodak Junior Six-16

6 to 100 feet. Kodak Junior Six-20 f.6.3 has a focal length of 100 mm., a No. 0 Kodon shutter with speeds of 1/25, 1/50, and 1/100 second, time and bulb action, a revolving focusing mount with distances marked from 5 to 100 feet.

The Kodak Doublet models are fixed focus. All models are covered with morocco-grain, artificial leather with decorative embossing, have swing covers for the red windows, hinged backs, self-erecting fronts, and tripod sockets.

Kodak Junior Six-16 takes eight exposure rolls of Kodak Film numbers F 616 (Panatomic); SS 616 ("SS" Panchromatic); V 616 (Verichrome), and regular 616. Kodak Junior Six-20 takes numbers F 620, SS 620, V 620 and regular 620. The Kodak Junior Six-20 with Kodak Doublet lens is priced at \$10.00, or with Kodak Anastigmat f.6.3 at \$13.50. Kodak Junior Six-16 with Kodak Doublet lens is \$12.00 and \$15.50 with the Kodak Anastigmat f.6.3 lens.

Classified Advertisements

Items advertised in these columns may be purchased C.O.D. subject to examination and C.O.D. subject to ten days free trial if sent by express. If in doubt, safeguard yourself.

OUTFITS FOR SALE

◆Series D $3\frac{1}{4}\times 4\frac{1}{4}$ Revolving Back Graflex Camera. $7\frac{1}{2}$ " Kodak Anastigmat F:4.5 lens, Graflex ground glass focusing adapter, Graflex film pack adapter, six Graflex plate holders. Practically new. Sacrifice \$110.00. J. A. Cauzac, 3455 No. Oakley Ave., Chicago, Ill.

◆ $6\frac{1}{2}\times 8\frac{1}{2}$ Camera. case, tripod, \$14.00. Portrait Camera \$45.00. Premo 4x5 plate Camera 2B Tessar 4.5 lens. 8x10 Ansco Printer. $6\frac{1}{2}\times 8\frac{1}{2}$ Premo Plate Holders \$1.00 each. National Studio, Bucyrus, Ohio.

◆B & H. 70D with 1", 2" and 4" lens in Mayfair case, 400 feet pan. film, Eastman Model C projector in case. Cost \$400.00, nearly new; sell \$225. Room 511. Anglo Bank Bldg., San Jose, Calif.

◆Cassell's Cyclopaedia of Photography. 6x13 cm. Stereo Camera. 14x17 inch Camera. Photo Miniatures 30c each. F. J. Misch, 2823 N. Racine Ave., Chicago, Ill.

◆6 Thornton Pickard $6\frac{1}{2}\times 4\frac{1}{4}$ plate holders with adapters. Leather case for $6\frac{1}{2}\times 8\frac{1}{2}$ View. \$5.00. Portrait Lens, 6" focus, F:4, rack and pinion, \$10.00. $2\frac{1}{4}\times 3\frac{3}{4}$ Camera F:6.3, \$10.75. 5x7 Premo triple extension and attachments. Clarke, c/o Camera Craft, 703 Market St., San Francisco, Calif.

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CHAPTER HEADS

- I Scope and Uses of Projection Control
- II Equipment and Materials
- III Negative Quality
- IV Simple Projection Printing
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Pictorial Make Up

William Mortensen

NOT only the pictorialist, but the maker of portraits, frequently has occasion to deplore the quaint vagaries and apparent carelessness of the Creator in assembling the human countenance. The portraitist, whether amateur or professional, discovers early in his career that vanity is a phenomenon of more frequent occurrence in his sitters than beauty; so it often becomes his task to adjust the imperfections left by the Hand of the Potter.

In the Good Old Days it was the custom to make these readjustments by long hours spent over a re-touching desk. The result of these sessions with knife and needle was all too often a smug and conventional semi-likeness of puttyish consistency. For users of miniature cameras such maneuvers with the negative are altogether unfeasible. For them, as for all portrait photographers, the most logical and easy method is the use of make up.

To "Purists" in the photographic field make up is of no interest (save as a possible theme for advertising cosmetics); but to those who hold that photography realizes itself as an art only through flexible and complete control of its material, make up is important. Make up is, indeed, an additional method of control in pictorial photography. As such it is possible of innumerable exuberant and tasteless abuses. But in capable hands it is a valuable aid to the pictorialist. Many an amateur has, no doubt, felt himself handicapped because a large variety of models was unavailable to him. However, with the assistance of make up a great deal may be accomplished with very few models. In my own case, not more than half a dozen models have contributed to the making of my best pictures.

In the history of man, make up has been put to two separate and distinct uses that should not be confused. One type is the decorative-abstract, frankly non-realistic. This is undoubtedly the earlier, historically. It is frequently ritualistic in its background. To it belong such primitive manifestations as the face-painting of savages and such sophisticated developments as the make up practiced in the Chinese theatre, by the Habima players and the Russian Ballet. The other, and more, familiar type, is that of merely realistically enhancing or flattering the

contours of a given face. The former type is intrinsically more interesting to the pictorialist, and I hope to discuss its difficult problems in a later article. But at present I shall deal only with the commoner and more realistic applications of make up.

My remarks on this subject will make no effort at laying down a definitive Theory of Cosmetics. Nor does the type of make up hereafter described have any necessary connection with make up for stage or screen. It is a self-evolved system, and has but one purpose—the most effective setting forth of the face in pictorial and portrait photography. It is specifically adapted to and designed for my own method of portrait lighting and will not work with the conventional contrasty type of illumination. Nor is it adapted to daylight use.

The basis of all make up is the bony substructure of the face. The facial bones of the skull, which do not change their essential contours after early maturity, provide the framework over which muscles and skin are stretched or draped, gracefully or ungracefully as the case may be. In every face the contours are dominated and controlled by this framework. Make up must always be conditioned by the fundamental bony structure of the face. Whether the make up is slight or extreme, whether it is realistic or grotesque, it must not violate or contradict this structure. Whatever alterations are attempted on a face must affect only the fleshy parts and leave the osseous foundation untouched. It is failure to observe this principle that causes bad make ups—flabby suet pudding faces with no more reality or substance to them than Halloween masks. Such a make up should be compared with an Oriental mask, which though grotesque in the extreme, has bone and gristle under its grimace.

Let us, therefore, before going further into the subject of make up, pause to meditate Hamlet-like on the grim reminder exhibited in Figure 1. The principal structural points to note in the skull are the following:

1. The frontal bone. Its shape varies greatly with different individuals, sometimes arched, sometimes flat, sometimes sloping. Its width is determined by the depressions in either temple.
2. The orbits. Note the large area of the face that they occupy.
3. The cheek bones.
4. The nose. Note that the upper section only of the bridge is of bone. The lower changes with age and is susceptible to alteration by make up.

5. The mandible, or lower jaw. This varies greatly in shape among individuals. With increasing age the jaw moves forward and eventually protrudes.

6. Important depressions are found beneath the cheek bones and in the temples.

Study the skull well until you are thoroughly familiar with its proportions and structure. Note especially where the shadowed areas fall in Figure 1, for it is principally in these portions that make up is applied.

This may seem a morbid and bleakly anatomical approach to the problem of such slight make ups as we shall discuss in this article, but it is the only helpful one. Every face, no matter how lovely, is built from the bone out. A girl of eighteen has essentially the same bony structure



Figure 1. The basis of make up

in her face that she will have at eighty. The human head is not an egg, although I have seen some retouched photographs that were based on the assumption that it is. One of the outstanding advantages of make up over retouching as a means of alteration is the fact that in applying make up the facial bones lie right under the fingers to guide one and prevent one from straying into illogicalities.

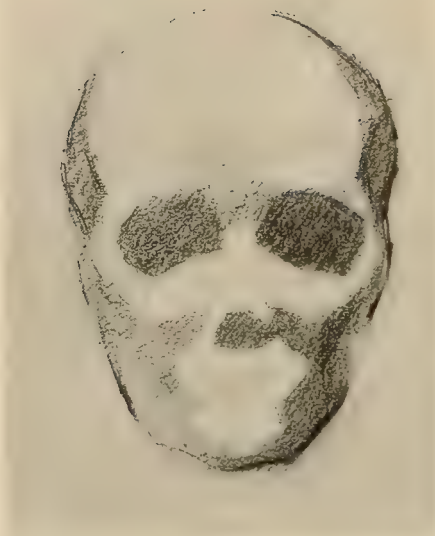


Fig. 2



Fig. 3

An artist in sketching a face roughs it in in the manner of Figure 2, which is simply a summary statement of the hollows and protuberances of the skull in Figure 1. Unless a face is constructed in this manner, solidity and substance will be conspicuously lacking in the final version. Figure 3 shows how the features are built up on this basis.

So, to get down to concrete procedure, the first step in constructing a make up is to persuade the model to remove her street make up, wash her face, and present herself "as is", Figure 4. Thus are simultaneously revealed the basic and inviolable structure and the faults that need correcting. This girl presents an instance of the frequent fault of eyes that are slightly too small. This smallness is emphasized by the undue swelling of the orbit above the eyes, and the insufficient lashes. The mouth is interesting, but somewhat pinched in expression. Presented thus baldly, these faults tend to obscure the fundamental good structure of this face. Now, to correct these faults.

A photographer who intends to use make up should be provided with the following materials:

Powder in four shades:

Natural
Light rochelle
Dark rochelle
Light sun tan.



Figure 4
"As is".

Dry rouge of an orange tint.
Tangerine lipstick.
Panchromatic rouge (Max Factor 22).
Lining pencils (black and brown).
Cold Cream.

Returning to our model, who patiently awaits our return in Figure 4, we darken the orbits with #22 shadow and line the lower lid with the brown pencil. The lips are built out to a more becoming fullness with tangerine lip rouge. Figure 5 shows the extent and position of these additions. Notice that these alterations all correspond to the position of the shadow areas in the skull (Figure 1) and in the roughed in face (Figure 2). Finally the shadows are reduced and blended with a finger slightly touched with cold cream, and the face powdered with the tone most nearly matching the natural complexion (in this case, light rochelle). The orange toned rouge is blended from the nose line delicately toward the temples. Finally, the high lights on chin and forehead are slightly accentuated with cold cream.

The finished picture, "Ruth", represents a conventional portrait job. The amount of make up is small, but it is logically applied and simply enhances the best in the face without any loss of likeness. Ortho (green sensitive) film was used in making this picture. When Panchromatic stock is



Figure 5

Make up roughed in

used, the #22 Panchro rouge should be substituted for the tangerine lipstick.

It is of the utmost importance that the model remove her street make up and submit to being made up afresh for the sitting. The street make up is usually of the wrong colour photographically, and is illogically applied nine times out of ten. The make up given here follows the simplest and best known of formulas—eye shadow, lashes, colour on the cheeks, and lip rouge—yet in the handling of these few elements it is possible to make alarming errors and to violate facial structure in a criminal manner. When the face is free from make up the underlying structure is clearly revealed, and it is possible to go about constructing a logical and photographically accurate make up.

The eyes are probably the most important part of a make up. It is well to remember the art school axiom for painting that all portions that lie within the orbit (saving only the high lights) should be darker than the rest of the face. A delicate wash of shadow should be applied in the orbit. If there is a tendency to a swelling over the eye, it should be reduced with extra darkness in the shadow. When the model has dark discoloration under the eyes, do not try to cover it up with light powder: rather make up the rest of the face in a darker tone to correspond to that of the discoloration. Thickness of the over lid is an especial mark of



Figure 6

*The unfortunate result of
reading screen magazines*

beauty, and if it exists it should be emphasized with a high light of cold cream or oil on the lid. In lining the lower lid be careful not to start the line too close to the nose: generally speaking, only about two-thirds of the lower lid should be lined.

The eyebrows need especial attention. Much control may be accomplished by the use of a brush. If the space in the orbit between the eye and eyebrow is too wide the brows should be brushed downward; if too narrow, upward. Sometimes a model will appear with eyebrows on the coal-heaver pattern, giving the face a heavy, sullen expression. Such a model, if possible, should be encouraged in careful and discriminating use of the tweezers. Thinning and arching the brows gives a better impression of the facial structure, and at the same time imparts added brightness and happiness to the face.

Coarse nostrils are a bad blemish and a difficult one to counteract. The best policy in such cases is to avoid as the plague any poses with the head tilted back. Red noses are an occasional problem that arises to harass the photographer. Liquid powder is the only thing that I have found that will cope with them.

In filling out the lips avoid too harsh a tone contrast with the rest of the face. An orange toned rouge is best with Ortho (green sensi-

tive) film, Factor's #22 with Pan. Keep away from smugness and conventionality of outline of the lips. If the mouth is large, blend the rouge; if small, leave a definite outline. Thin lips should be only lightly filled out; piling on the rouge merely emphasizes the thinness. Children often have an unduly heavy upper lip. In such cases it is best to compensate for it by slightly thickening the lower lip.

If the chin is weak, it may be helped with a highlight of cold cream or oil. Never try to add a cleft to a chin that is naturally cleftless. Also avoid accentuating dimples or trying to add them when absent.

The rouge should be applied on the cheek near the line that runs from the nose to the corner of the mouth, and should be blended delicately outward and upward toward the temples. Keep it away from the line of the jaw. For added brilliance of the eyes, the rouge may be carried clear into the orbit. Blend it carefully; rouge must never appear as a patch or spot. Apply powder sparingly, always. Too much destroys high lights, wipes out modelling, and makes the face resemble a carefully plastered wall.

The arrangement of the hair really belongs among the problems of make up. If possible, the model should be strongly discouraged from getting a fresh marcel or permanent wave before she comes for her sitting. Care should be taken that the size of the coiffure does not over-balance the apparent strength of the neck. This is especially true of black hair: pictorially, blond hair is less heavy. Large women often mistakenly affect a tight head dress. If they can be persuaded to loosen their hair and soften its contours, a much better picture will be assured.

Once in a while the portraitist will encounter a model that from admiring but unintelligent perusal of screen magazines has developed a make up that is obviously derivative and imitative. (Figure 6.) It is generally useless to assure such a person that Joan Crawford or Jean Harlow has created her own definitely stylized make up only after years of study and experiment. The best thing to do with such a model is to concede her a few exposures and let her do her worst, and then lead her gently to the soap and water. Usually when she sees the contrast between a logically developed make up and her own clumsy imitation, she will capitulate unconditionally.

The operations of Projection Control are capable of being applied to the problems of make up. By use of local printing extra darkening may be given to the orbits and high lights may be accentuated. But all such operations must be guided by a consciousness of underlying skull structure. Without this consciousness the results may be even more lamentable than those produced by wrongly applied eye shadow and lipstick.

There is no excuse for photographically perpetuating a bad make up. A finely executed make up is a joy forever, but a clumsy inept one is merely a pain in the neck. Only by a long process of trial and error is it possible to arrive at a firm working knowledge of this subject. The trials will be many and the errors horrible, without doubt; but study and analyze your failures—and then unceremoniously drop them in the waste basket. Not until you have the process well in hand should you exhibit



"Ruth"

William Mortensen

Completed Make Up

any of the results to your model or to your public, large or small. Don't leap immediately to ambitious and grotesque extremes: the first test is the ability to construct a completely logical and thoroughly natural-looking *straight* make up. When you have gained this ability you will have definitely added to your range of photographic control.

Next month Mr. Mortensen will explain how he achieves the more complex character make ups for which he is so well known.—Ed.



"Daughter of the Gobi"

William Mortensen

The model is an eighteen year old girl. Structural character make up aided by Projection Control.

Fundamentals Of Picture Making

Nicholas Haz

A PICTURE is an intentional representation of nature or ideas done on some surface by a human being by means of marked signs. Marked signs may be hand-made, printed, or projected by light or chemically active invisible rays. The first pictures were probably scribbling into dust or wet mud, intentionally cast shadows or purposely caused mirror-images and hand and foot prints.

All pictures, no matter how made, consist of spots in the last analysis; even dots or lines are small or long, narrow spots.

Spots, in turn, are made of *visible differences* just as music is made of audible differences. It can be said that as a matter of fact all pictures are made of visible differences.

This is a *law*. Laws are limits of nature, incontrovertibly enforced on human beings. No man can break a law, whether or not he knows that law. Most laws of picture making are practically unknown because they have got to be obeyed anyhow.

Rules are limits devised by human beings, advocated and quite often enforced on other human beings.

Laws are consistent, eternal and logically connected with each other. Rules, in the aggregate, are utterly inconsistent, confused therefore confusing. They are subject to constant change because they depend not only on customs and traditions but on fads and fashions. They are at all times thoroughly contradictory to each other. All spots of all pictures will be symbolized in this article by one single spot. See illustration.

This spot, as all others, shows the following visible differences:

Existence: There is something on the picture-plane where nothing was before. No spot,—no picture. This is the most important of all visible differences, because all others may become visible only after this one is present.

Number: There is only one spot in this picture, there could be more. All other pictures in this magazine are made of numerous spots. The

quantity of the spots has a great influence on the appearance of the picture. Compare the picture of a single duck with a snapshot of a few hundred thousand of them.

Size: This spot is of medium size, it could be much smaller or else much larger. Comparative size of the spots of a picture has a bearing not only on the meaning of the spots but also on the beauty of the picture. Jay Hambidge has devoted his life to search for the secrets of the effect of comparative size of spots and images of pictures. His "Dynamic Symmetry" is a study of this phenomenon.

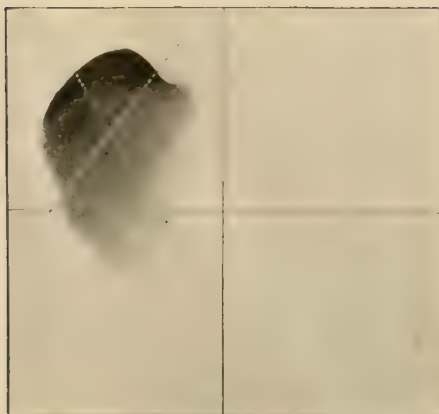
Position: This spot is off center; it could be centered or be altogether in a corner or near an edge of the picture plane. Just where the spots of pictures are placed in relation to each other, and in relation to the frame, influences not only the meaning but the beauty of the picture. The words "layout" "spacing", "mis en place", and so on, refer to the positioning of the images in pictures. Existence, number, size and position of the images, together, are known under the name of *proportion*. (From hereon beside the word "spot", also "image" will be used. Images are a constellation of spots, assuming usually the likeness of things or people or their symbols as well as of emotions and ideas.) No picture exists without proportion, but when proportion is "good" or "bad" depends on the pet rules of the onlooker. There are a huge number of specifications of the many schools of picture-making, which provide certain comparative measurements and positions of the images, to make the picture "good". Nevertheless, proportion in the aggregate is still a mystery to most picture-makers, which fact is proved by the lack of any book or even exhaustive article which deals exclusively with the intricacies of selection, frequency, measurements, and placement of the images of pictures. The average book which mentions proportion refers only to comparative measurements of the layout, such as "the Golden cut" or "Greek proportion".

Shape: All spots must have a pattern or form. (this latter word has many other meanings,) which depend on the direction of the outline and the comparative dimensions of the spot. The meaning of the spots or images depends mostly on their shape. The spot shown here has neither a simple nor a complicated shape, it is neither geometrically regular nor exceedingly irregular. It has no meaning beyond being a spot.

Line: The outlines of the spot, plus the imaginary axes of it, (which, in the illustration are marked with dotted lines) constitute the line composition of the spot. There are many theories concerning good and bad line. Painters like to play with the line composition of their pictures.

Tone: The comparative darkness or lightness of a spot in relation to that of the other spots or images in the same picture constitutes its tone value. The present spot is dark on a light background, it is not of an even tone but contains several degrees of grays beside its black. Tone-values also influence the appearance, meaning and mood of a picture to a great extent.

Color: Most spots in nature have color. (Black, white and greys are not considered colors.) In pictures color may be absent, even though it is awfully hard to produce a picture without even a trace of reflected



This spot, (symbol of all other spots of all pictures) shows the following visible differences in relation to the picture-plane. Existence, number, size, position, shape, line, tone, edge, surface, depth, motion, unity, clarity, emphasis, rhythm. There is an absence of color, balance, harmony and duration.

color. The illustration with this article is nominally colorless.

Edge: The verge or outer limit of a spot or image is its edge. This may be sharp or soft. The edges of this spot are partly sharp and partly soft. Extreme soft-focus photographs have only soft-edged spots.

Surface: This may be rough or smooth. Our spot being printed on coated paper is naturally smooth. Painted on rough water-color paper would make it rough. The surface of the represented object, not of the picture-plane, is known under the name of "texture".

Depth: Depth means the third dimension, the distance from the eyes of the onlooker. Suggested volume or plasticity depends on it. The science which deals with depth is perspective. The top edge of the present spot being sharp and dark seems to be nearer to the onlooker than the lower edge which is soft and light.

Motion: A spot may or may not suggest motion or action. The rectangle of the picture-plane appears stable in comparison to the spot on it, which having sloping axes, as well as sloping outlines, appears to be moving. Whether or not the images of a picture seem to be stable or active has an important influence on the appearance, meaning and mood of the picture.

Balance: In its relation to the edges of the picture-plane a spot may appear balanced or unbalanced. This spot is not well balanced because it is off center, the diameters of the picture-plane show this. To balance this picture a counter weight would be needed in the lower right. Many picture makers consider proper balancing an outstanding virtue of a picture.

Unity: A single spot always is united even if it is of a complicated pattern, because there always is an easy communication possible between its several parts. "United" derives from the word "one", so naturally, this cannot be argued. But a picture made of many images may or may not appear united, this depends on the deftness of the composer of the picture.

Clarity: A single spot is usually clear, mentally, if it represents nothing but a spot. It may become obscure when a secret meaning is given to it. Ideograms are clear to Orientals, obscure to others. Physically a spot or image may become unclear if its tone, shape or outlines are too complicated. The present spot is quite clear. Pictures made of many spots may or may not be clear, this depends on the intention and aptitude of self expression of the maker, and on the intelligence of the onlooker.

Emphasis: A single spot or image on an otherwise bare picture plane is inevitably prominent. Pictures made of many spots or images may show some of these to be prominent, others subdued, they even may be equally important looking and finally all emphasis may be concentrated upon a single image amongst many equally unimportant ones. The present spot, being alone, is of course emphatic.

Rhythm: Rhythm is the result of repetition. A single spot cannot be rhythmical as a spot but it may have rhythmical outlines. The present spot is not really single because it is superimposed upon another spot, the picture-plane. The outlines of it repeat each other more or less vaguely, not regularly, as those of a square, for instance. The elements of free rhythm are present in this spot.

Harmony: Harmony is the pleasing property of parts of a whole of fitting well together. This is a matter of opinion most of the time. At any rate there is no way to measure harmony to the satisfaction of everyone. The present spot will probably be considered not to be in harmony with the picture-plane but there may be dissenters to this general opinion.

Duration: A spot may, under given circumstances, represent the passage of time. A blurred image of a hand, for instance, in a snapshot, caused by movement of the hand and too slow a speed to stop the motion, represents the passage of more than a small fraction of a second. This representation of duration may be increased to cover eternity. Modern picture-makers make good use of this visible difference in abstract and semi-abstract pictures. Thirteen of these visible differences are positively present in any spot or image. The rest may or may not be present. Whether or not there is color, harmony, unity or clarity in a picture, for instance, depends on the intention of the maker as well as on the critical judgment of the onlooker.

The bringing together of images within a picture-plane for the pur-

pose of representing nature or the expression of emotions and ideas is known under the comprehensive name of *composition*. If this bringing together is done so well as to satisfy the expectations of the onlooker in this respect, then the composition is good,—for this onlooker. If the bringing together is so inept that the onlooker could easily suggest changes which would improve the interrelations of the visible differences, then the composition is bad,—for this onlooker.

If the representation of the subject-matter accurately tallies with the knowledge of the spectator concerning the characteristics of the subject matter, then the picture is *true*,—for this spectator. If the representation does not harmonize with the information, insight, or general knowledge of the spectator of the subject matter, then the picture is *wrong*, *false* or *untrue*,—for this spectator.

If the subject, as well as the mode of representation please the onlookers esthetic senses, then he will call the picture *beautiful*. If he is displeased or disgusted with either or both of them, he probably will call the picture *ugly*. If all the visible differences are so attuned to each other as to make a true and beautiful picture, then the onlooker will approve of it, in which case he probably will pronounce the picture *good*. Otherwise he will decide that the picture is *bad*.

To his knowledge good pictures are *works of art*, and a maker of these is an *artist*. If he has deep insight and lots of courage he will insist on this, and will not use the old dodge: "I don't know what art is but I know what I like". Instead he will simply state: "Pictures which I admire are works of art for me, and I don't give a rap who does not agree with me."

Anyone who has much to do with pictures knows that there are not two people on earth who quite agree on the merits and demerits of all pictures. It is a sad fact (or is it cheerful?) that even Siamese twins disagree on them. Nor can it be hoped that this ever will be otherwise. Nor is this anything to worry about, because if we had a foolproof method of measuring goodness and beauty in picture making, we would pretty soon all be governed by cast-iron formulae, the breaking of which would amount to a crime.

Readers inclined to think about their work may profit by this article if they take any picture and attempt to locate all the visible differences in them. When they arrive at composition they try to define to themselves why they like or dislike a given picture. Chasing short-comings of composition in ones own work is a very healthy exercise, which begins first of all with definition of the many points of view from which the picture is to be criticized.

Sunlight And The Miniature Camera

Samuel Brown,
Leo Lowenthal

OLGA is a dancer. Although not a famous one, her studio is always crowded with admirers. Her dancing is unique. Her Norse heritage gives it the freshness of the fiords and the charm of the native legends. Even though her recitals are few, she is constantly in need of publicity photos. Up to now I had been her official photographer.

A month ago Olga asked me to stay after everyone had gone. She was hot and tired, and her hair clung to her forehead. She was unusually frank, it may have been the drinks. My pictures, she said, make her look like a "codfish in an ice cube". Amazed I drew her photos from my pocket, (I always have them with me,) and began expounding their merit.

She ground her cigarette under her foot. "Composition, rhythm, balance, tones, these are all superficial. Don't you understand. Duncan was life, love and fertility and so I am Norway, the fiords, the sagas. Oh! If only I had Steichen or Genthe." And I hit on an idea. I told it to her. Photomontage! I could take any portrait of her and by superimposing dwarfs, Peer Gynts and Ibsens I could give her the spirit of Norway or even Labrador.

The idea didn't click, and when we parted that night I dropped in on Karl. Karl is the kind of fellow with whom everything turns out right. He can, figuratively speaking, make a developer out of acetic acid. From pinhole photography to studio work, all my problems had been offered to him for a solution.

"What would you do if your technique was inadequate and your results archaic?"

He set a roll of "pan" into the fixer and turned on the light.

"I would change my camera and my medium."

"Impossible. It would be like a sculptor changing to water color."

"Not necessarily. Look at Sequins. He found the paint brush outmoded and the canvas restraining so he developed a technique with the spray gun and concrete as his medium."



Gertrud Hotze

For a while we discussed my equipment, the view camera, the "spots", reflectors, the screen, filters. We went over my photos and no serious fault was evident. They had good detail or lack of it, each when it was needed. The lighting was good, the exposures correct, but no amount of examination could justify the fact that the pictures were basically not Olga. A good likeness, excellent photos, but lacking individuality. That we agreed was the trouble.

Perhaps the fault was Olga's. We looked at the posing. Her ingenuity was evident. I left confused.

A week later Karl called.

"Lee," he said, "did you ever hear of sunlight?"

"Sure, I'm told it's swell for rickets, rubber plants and hangovers."

"Cut the kidding, I mean for photography. Just saw some European samples of sunlight exposures."

"The reason why the continentals use sun is that they have no photo-floods and are afraid of flash powder."

"It seems to be a lost art, degraded by the Sunday Kodaker."

"It's not dependable. During an exposure a mist will probably roll in front of you, or a cloud might stroll across your lens."

I saw him later and began to understand what had caused his sudden interest in the sun. It was a Rolleiflex camera. A neat twin lens outfit built on the reflex style that used one lens solely for focussing and therefore had a constant image visible throughout the exposure.

We tested the finder and found it to be true. Karl was delighted.

"What you need," he laughed, "is this to put vitamins into your shots."

I borrowed it over the weekend. The idea of roll film was like a refreshing back-to-nature change after years of plates and cut films. It had an F.3.5 Tessar set in a Compur shutter and I began to see possibilities.

I located Olga in her summer home on the lake. A phone call and a two hour ride brought me to her side. "Danseuse," I cried, "discard your bathing suit and don the more classic tunic, unless you are wont to believe that the noon air alone is more befitting to you. I am Zens and the Gods of the long and short focus have seen fit to duplicate and manifest you. Prepare for possibilities."

Of the artistic technique there is little to say. The accompanying illustrations are proof enough of the charm and vitality that sunlight gives to photography. It is a subject I would like to discuss less flippantly and in more detail in a future article.

At no time will sunlight give the subject cadaverous eye and nose shadows. For myself I find that sun at zenith or a steep angle gives the best skin highlights. Also for comparative purposes one must divide sunlight into three groupings. Direct, filtered, when the rays fall criss-cross or parallel light obstructions such as screens or bars and reflected sunlight which intensifies the object and demands special treatment. Also a more exact analysis is necessary of the subjects eyes, hair, skin texture, etc., than by artificial light.

Yes! About the pictures. I am sorry I cannot print them all here. They are all posted in Olga's studio. I would give you the address but the place is always mobbed and Olga is at her wits end trying to seat them. There is no false modesty about me and I make no idle claims when I say they are good. In fact I tell Olga that more come to see the photos then to watch her dance.



*2 1/4 x 2 1/4" Rolleiflex; 1/100 sec.
at F:11; on Agfa Isochrome*

I am selling my spots and reflectors and investing in a good set of filters. I have lost faith in floodlights and photofloods and even the red and blue neon tubes. In fact I am then without artificial and electric lighting.

The other night I was standing before my photos, whistling.

What the devil are you whistling?" asked Olga.

"It's a new song called, 'Farewell to Ohms'."

Inexpensive Miniature Photography

Robert M. Riculfi

NO matter how grim may be his cynicism, the true lover of photography can surely never watch the traveler, friend or mere acquaintance, who struggles through life minus some kind of camera, however inexpensive, without some stir of pity for him who has so misarranged his life. To me photography is really something more than just a hobby. It is a soul-inspiring art. When things have gone wrong my camera and I will take a brief holiday together, and soon all my troubles are dispelled like mist under strong sunshine.

In this article I will describe what a miniature camera costing less than four dollars has to offer in the way of untold pleasure and contentment.

My friends, the pictorialists, are urged to remember that this is written especially for the beginner, or for one who, like myself, has lost his entire photographic equipment and must, through force of circumstance, begin again on a very modest scale. By showing the beginner what my small and inexpensive outfit can do, he will probably say to himself: "If that's the best he can do—just watch me." To him I say: "Go and make better pictures." I seek no pictorial laurels for myself. I am content if I can stir just one of my readers to renewed activity or introduce this fascinating hobby to one more person somewhere.

I must confess that I have not always used inexpensive cameras. Possibly some of my readers will recall an article of mine in the 1924 January issue of *Photo-Era Magazine*, entitled: Guadalupe: Holiest Shrine in Mexico. This article was illustrated with seven photographs which I took with the equipment described therein, acquired by much stint and labor over a period of years, including a 3¼x4¼ R.B. Auto Graflex, fitted with an F/4.5 Carl Zeiss Tessar, a Wollensak Verito soft



Robert M. Riculfi

focus lens, telephoto lenses of varying lengths, a Richard Verascope, 45x107 mm., and a 5x7 Speed Graphic, equipped with Kodak Anastigmat.

I have none of this fine equipment now. A short time ago the entire outlay was stolen from our living room while Mrs. Riculfi and I were attending a movie with friends. The police made a thorough investigation and search, but to no avail. I have never recovered anything. This was a heart-rending experience. What was to be done? Must I give up my hobby? The depression was on, business was none too good, and we had just acquired a new member in our family. I was not long in deciding. I could not afford even a moderately priced camera, yet I could not go many more hours without taking some pictures. I decided to buy a camera. And this time I would try the much heralded miniature photography. But what was this? Miniature cameras costing one and two hundred dollars? Not for me! Truly they were the last word in fine photographic equipment, and I would have thanked anyone more than once for presenting me with one of these fine instruments. An expensive camera had to wait for more prosperous days. But my hobby could not wait. Consequence: I bought a miniature camera for less than four dollars taking sixteen pictures on one roll of number 120 film, each half the size of a 2¼x3¼. This is now my sole camera equipment, truly quite a drop from what I had been using. This little camera, while costing so little, has several versatile features associated with more expensive cameras. It has the customary brilliant finders for horizontal and vertical pictures and a direct vision, eye-level, wire finder as well. The wire finder slips down into the camera when not in use. It has three aperture openings and takes all exposures at 1/25 sec., with both bulb and time exposure, a finger release and cable release. The lens is a doublet. In addition it has a supplementary lens for close-up portraits, which is incorporated right in the camera as an integral part and is placed into position

by pulling out a small lever. The back of the camera is easily and quickly removable for loading, and has a pressure retard against the spool to hold the film taut. It also has pressure springs back of the film to hold the film in exact focal register and flat. I have made full size heads with this camera. One would hardly expect all these features in a miniature camera retailing for less than four dollars. Now a word as to the illustrations.

Eastman super-sensitive panchromatic film was used without a filter. The portraits were made at night in our hotel room in San Francisco. Two Photoflood lamps were used without reflectors. One was left at all times in the ceiling fixtures and the other was placed in different positions and held by hand. At f.11 the exposures varied from two seconds to four seconds according to distance of subject from photofloods. The boats at Fisherman's wharf were taken late one Sunday afternoon against light by shading the lens with one hand, exposure F.11 at 1/25 sec. without filter. I have made a fairly decent enlargement from this negative by leaving off a quarter inch from the top of the picture, thus leaving out the distracting white line across the upper left hand corner.

A word of caution with respect to the practical use of this type of inexpensive camera will be of value. Freedom from distortion, pleasing perspective and truth of drawing with such cameras, as required in portraiture, will be questioned by some because of the relatively short focal length of the lens. It is true that proportion in the features or figure in portraiture, together with the ability of the photographer to control the size of the image within the limits of the small picture area this camera makes, depend on the focal length of the lens used and the available working distance between camera and subject. I have found a practical solution to this problem with my small camera with its short focal length lens. It is as simple as it is effective. I move back from my subject until the subject occupies only one half the space on the film (in the finder) and thus I double the effective focal length of the lens. I then enlarge only the desired portion of the negative, masking off the surplus area of the film not desired. Again, except in the portraiture of young children indoors and nervous grown-ups, speed in lenses is no longer a vital need, when one uses super-sensitive panchromatic film under two Photoflood lamps.

However, one must be careful with this type of camera with respect to the height of the camera or lens in relation to the subject. This should always be given careful consideration. A high position will shorten the neck, lengthen the eyes and give undue prominence to the ears, while a too low position will emphasize the throat and nostrils too much, bending the mouth downward and causing the forehead to recede. I have found that with this camera placed five feet high for standing figures and four feet for a seated or half-length, good perspective will result. Of course, a steady tripod must be used for the short time exposure indoors. One must be careful when taking close-ups, while depending upon the brilliant finder or wire frame finder, to allow for the difference in parallax between finder and lens. Always allow plenty of space at the top of the finder and slightly to the right. This precaution need not be taken for



Robert M. Riculfi

subjects more than six or eight feet away. When using super sensitive panchromatic film always load this camera in subdued light and stand between the light and camera. Also, be sure to keep the black tape, which comes with the roll, securely fastened to the two small red counter windows on the back of the camera, except when winding the film. When not actually taking a picture always keep the direct view wire finder depressed inside the camera, likewise the peep sight. This will avoid the danger of breaking or bending.

With these few precautions and suggestions you will find that you can produce really fine work with this low priced instrument.

In conclusion let me say that you will never know how artificial and unsatisfying our civilization really is until you have frequented the open spaces with your camera, however little it may have cost.

Somehow, with camera in hand, when one is intrigued with the beauties of nature and engrossed in communion with her, one has the conviction that without these he has been cheated of things which never tarnish nor grow old—the splendid, satisfying and powerful realities of life.

So I say to you, if you can afford the expensive miniature camera by all means do so; but even if you are severely restricted by all means do not be without even the most inexpensive camera, for it will lead you to an understanding of all that is beautiful in nature and humanity, second to none among the factors which contribute to the intellectual and spiritual growth of mankind.

Pertinent Points About Dufaycolor

Roland Calder

COLOR reproduction has been the goal of photography since the days of Daguerre and Talbot. At more or less regular intervals the public is stirred by some new announcement. In "Camera Work" for April 1908, we find, under the name of Edward J. Steichen—"During the last twenty years we have been periodically informed by the daily press that color photography was an accomplished fact. Every time some excitable individual got a little chemical discoloration on his photographic plate or paper, the news was sent sizzling over the globe and color photography was announced in big type".

No sooner was the first photograph fixed than experiments were made to produce color photographs. Hand tinted Daguerrotypes became common in an attempt to produce natural effects. Hand tinting with water colors or photo oils is still the easiest and simplest method of securing colored prints.

The principles of present day color plate work were known and understood as early as 1868. In fact, the basic idea was outlined by Maxwell in 1861. But the first commercially practical color plates were the Lumiere Autochromes in 1908. Since then, both the Autochromes and the similar Agfa Color Plates have been improved in quality and speed.

Now, with the advent of Dufaycolor film for 35 mm. Minicams Color Photography takes another step toward practical usefulness and popularity. It is still a transparency process and is best viewed by projection on a screen, which is really the most enjoyable way for a small group of people. The ease of handling and its speed make Dufaycolor especially convenient. It comes in daylight loading spools for Leica and Contax magazines, and with a little ingenuity can be used in the Memo, Retina or other 35 mm Cameras. No color filter is necessary for sunshine shots, and the manufacturers rate it at 16 degrees Scheiner. An average exposure in sunshine would be 1/50 second at F:5.6. Since most Minicams have at least an F:3.5 lens, the possibilities of this film are readily apparent.

Color photography has a technique of its own, which differs in many ways from black and white.

For regular black and white we are primarily interested in tonal contrasts; the play of light and shade. Our old friend, the 45 degree angle of lighting is the standard, as it emphasizes the contours of the object to produce roundness and form. From this we may go to straight cross light or even black lighting for special effects. Our whole thought has been to secure pleasing tonal contrasts, and we only watch color

with these contrasts in mind—to make sure that there is the proper tone separation when reduced to monochrome.

Working with color presents a new set of problems. Tonal contrasts are of less value and must be minimized. We are looking now for color contrasts—a red rose with green background or white clouds in an azure sky. Tonal contrasts are a menace and are to be avoided, for colors lose in intensity under duller light. To test this, pick out some shrubbery in the sunshine with several shades of green included. Slowly close your eyes, and watch the green merge in tone, until at half squint they appear to merge into one tone of gray. Incidentally, that is a good method of eliminating color contrasts for estimating the monotone values in black and white work. The same thing can be demonstrated for any color. As the brilliancy of the light diminishes, the colors grow duller in tone and approach the gray.

This loss of intensity as well as the weaker light values gives a greater range of contrast than the film can record. Color photography with the standard 45 degrees lighting has a tendency to produce weak and uninteresting shadows. Increased exposure for the shadows, loses the delicate nuances in the highlights.

So—flat lighting is best for color work. Work with the light coming from directly behind the camera or nearly so. This eliminates the heavy shadows; tonal contrasts are reduced and we get the full delicacy and quality of the colors themselves. In other words, the beauty of the picture is in the color contrasts of the subject.

No filters are necessary in sunlight, but with Mazda lights there is a tendency to a rosy hue, due to the strong red component of the light. Here, one of the light green filters may be useful. Which leads us to speculate on the color effects which may be obtained by the use of filters. Provided, of course, that you are not a "Purist in Color".

For the technicians, a few details may not be amiss. Autochromes and Agfa Color Plates are made with a color mosaic placed between the plate and the emulsion. This mosaic is composed of starch granules dyed red, blue and green; mixed in such proportion as to produce a neutral gray tone; and spread on the plate in a very thin film only one layer of granules deep. Dufaycolor uses this same principle, but the color mosaic is formed by a very fine grid of colored lines dyed on the film base. The red lines run one way, the blue at right angles, and the green at 45 degree angle to fill the spaces. The mosaic is coated with resin for protection and the panchromatic emulsion is applied on top of that.

The exposure is made through the back of the film so that the color mosaic acts as a selective color screen. After exposure, the processing is the familiar one of reversal. That is—a primary development to reduce the exposed silver, giving a negative image. This is completely bleached out and the film exposed to a moderately bright light. Then the second development reduces the balance of the silver in the emulsion, making a positive image. After this the film is fixed, washed and dried, ready for use.

In photographing a red rose, for instance, light would be passed only through the red areas, and held back by the blue and the green.



William Mortensen

This gives a silver deposit behind the red which is bleached out and becomes clear, while the blue and green areas are left to be darkened in redevelopment. When viewed as a transparency, the light only passes through the red, and the rose glows in its natural color. Similarly, the leaf areas show green, as the red and blue areas are blocked out.

The cost of the film as spooled for Leica and Contax cameras is \$3.00 per roll, which cost does not include processing. A number of commercial finishers are already prepared to process this film and it appears that the cost of this service will be in the neighborhood of \$1.00 per roll. The film will shortly be available in 16 mm. size for amateur movies and also in the popular cut film sizes up to 5x7 inches.

Take it all in all—Dufaycolor is simple to take, and should provide a new thrill in photography for Minicam enthusiasts, whether we process our own rolls, or send them to the nearest laboratory.

Cinema Section

Edited by

William A. Palmer

Kodachrome- A New 16mm. Color Process

Dr. C. E. Kenneth Mees*

FROM the very beginning of photography, experimenters have tried to make photographs in color instead of in monochrome, and numberless processes have been put forward for that purpose. The ideal process would be one in which the color picture would be as easy to take and as certain in result as the monochrome picture is; but until now no color process has approached that ideal.

The new Kodachrome process, so far as the photographer is concerned, not merely approaches but realizes that ideal. It is as easy to take 16-mm. color pictures by the Kodachrome process as it is to take 16-mm. black and white pictures, and the percentage of good results obtained is as high.

All practical processes of color photography depend upon the division of the light into three components, red, green, and blue-violet. Pictures are taken by these three components and are then combined by some method in order to give the finished color picture.

Color processes are divided generally into two classes: the additive processes and the subtractive processes. In the first, the three components are combined by direct addition of colored images; in the second, the three components are combined by printing each negative in a color complementary to that which was used in taking, and these colored prints are then superimposed.

In the classic experiment in which Clerk Maxwell demonstrated the additive process of color photography at the Royal Institution, he showed three pictures of a colored ribbon taken by light of the three primary colors, and he projected positives from his original negatives in superposition upon a screen, each of the positives being projected through a color filter of the same color as that used in taking the negative. With modern materials and filters, this method will give an excellent reproduction of a colored object. It requires very complicated apparatus, however, and is obviously a clumsy method of obtaining a color picture.

Another type of additive process is that which is termed the "screen-unit process." In this, a screen is used over the whole area of the film, which is composed of very small color units—red, green, and blue. A photograph is taken through the screen and is thus split up into tiny areas, each of them

*Dr. Mees is vice-president of the Eastman Kodak Company, in charge of research and development.

taken through one of the three preliminary filters. On projection, these areas cover the entire picture with little spots of colored light. If a red object be photographed, for instance, the film will be fully exposed behind the red units of the screen but will not be exposed behind the blue and green units, and after reversal, the green and blue units will be blocked out by the black deposit of silver, while the red units will be projected in full brilliancy and will thus produce a red area on the screen corresponding to the red object which was photographed.

This process has the advantage that the film can be used in any camera, exposure can be controlled in the ordinary way with a diaphragm, and the film can be projected in any projector. Its practical disadvantages are confined to the screen pattern, which is apparent on projection, to the absorption of light by the screen unit, which involves a considerable loss in brightness, and to the cost of the special screen-unit film.

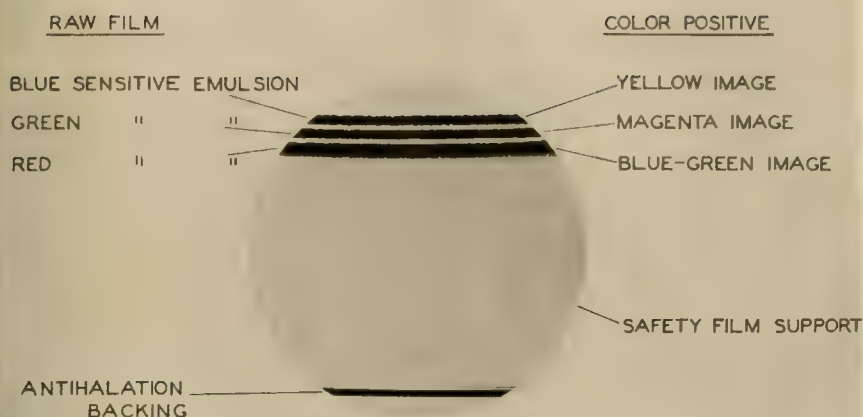
In the Kodacolor process, which has been very successful for amateur cinematography, the color separation is obtained optically. In the lens of the camera is placed a multiple-color filter composed of red, green, and blue units; and the tiny lenses embossed on the film make multiple images of these three units on the film emulsion. In projection, the same three filters are placed on the lens and a color picture is obtained on the screen. A multi-color image in the form of microscopic colored strips is projected and reproduces the colors of the original.

Turning to the subtractive processes, if the three negatives are printed as images in colored dye—the red negative as a blue-green image, the green negative as a magenta image, and the blue negative as a yellow image—and these three color images are assembled in register on top of each other, a color picture will result.

It will be seen that a red color can be obtained either by the projection of light through a red filter on the screen, as in the additive processes, or by the projection of the light through successive magenta and yellow images, the superposition of the yellow on the magenta producing red. In the same way, a green image can be obtained by putting a blue-green one on top of a yellow one, and a blue-violet image can be obtained by putting a blue-green image on top of a magenta one.

In working the subtractive processes, the three negatives may be taken just as for the additive process, and then positives are printed in some way which enables them to be made of a colored material, the commonest being to make them by printing in bichromated gelatine. By this process, the three negatives can be printed in colored dye, the picture taken through the red filter being printed on gelatin dyed blue-green, the one taken through the green filter on gelatin dyed magenta, and the one taken through the blue filter on gelatin dyed yellow. If the three are superimposed in register, the resulting transparent color picture will reproduce the colors of the original subject.

Subtractive processes of this kind are being used successfully for the projection of theatrical motion pictures in color, but it is clear that to make one print only by this method, as is required in amateur cinematography, would be extremely expensive, whereas once the three negatives have been obtained and a method of printing them has been worked out, the preparation of a large number of prints is not unduly costly.



CROSS-SECTION OF KODACHROME FILM

The new Kodachrome process is a subtractive process, but the separation of the light into the three components is not accomplished by placing the separate components in juxtaposition. They are separated in depth.

The film for this process is coated no less than five times! Nearest the base, an emulsion is coated which is strongly *red-sensitive*. This is then over-coated with a separating layer of gelatin containing some dye to act as a filter. Above this is coated a *green-sensitive* emulsion. This is over-coated again with another separating layer. Finally, there is applied a top coat which is *blue-sensitive* and which contains a certain amount of yellow dye. The five coatings are so thin that the total thickness of the film is little more than that of ordinary-line Kodak film.

The emulsions are so adjusted that the sensitizers do not wander from the layer in which they are coated, so that the bottom layer remains red-sensitive with very little green sensitivity, the middle layer is green-sensitive and is free from red sensitivity, while the top layer is sensitive only to the blue. When a picture is taken upon such a film, the three components are automatically separated in the depth of the coating. The red component is formed in the red-sensitive emulsion nearest to the base, the green component is formed in the middle layer of emulsion, and the blue component forms the image of the top layer.

In order to obtain a color picture with this film, all that is necessary is to transform each component image of the negative into a positive image consisting of a suitably-colored dye. The image formed in the red-sensitive layer is transformed into a blue-green positive; the image formed in the middle green-sensitive layer, into a magenta positive; and the one in the top blue-sensitive layer, into a yellow positive. This is accomplished by an extremely

complex processing system. The images in the three layers are first developed, as with ordinary black and white film, and then by a series of treatments the images in the three layers are transformed into positives formed in the dye. The whole of the silver salts are removed finally, and the image consists of three super-imposed dye pictures.

The process is the invention of Mr. Leopold Mannes and Mr. Leo Godowsky, Jr. These gentlemen are musicians whose names were well known in the musical world when some years ago they commenced the study of color photography as a hobby. As a result of collaboration between them and the Kodak Research Laboratories for a number of years, it was evident that the work could only be brought to a successful conclusion by a full utilization of the research and manufacturing facilities available at Kodak Park. Here, there were available experts of many kinds: organic chemists, emulsion-makers, dye specialists, photographic chemists, and experts in photographic operations—and in 1931, therefore, Mr. Godowsky and Mr. Mannes joined the staff of the Research Laboratories. By the complete cooperation of the staff of the Laboratories and of the Kodak Park Works, a task which at first appeared impossible was achieved and the Kodachrome process is the result.

The processing, as has been said, is extremely complicated and involves the treatment of the film upon three separate machines. Experience has shown, however, that it can be performed with certainty and that the commercial production of the color pictures presents little more difficulty than the production of black-and-white pictures, although the complex processing treatment and the expensive chemicals used in it naturally increase the cost considerably.

The pictures made by the new process are a revelation. Previously, color in photography has involved sacrifice. More light was needed for taking the photographs; it was difficult to get sufficient depth of focus; some definition was lost; it was only possible to project pictures on a small screen because of the loss of light in projection. In spite of these disadvantages, motion pictures in color have been very much appreciated, but their use has always been limited. The ordinary amateur motion picture has been in black and white, and only when taking conditions were favorable and when projecting conditions were not too exacting could color pictures be used.

When you see Kodachrome pictures on the screen you realize how wonderfully colored the world is. An artist, of course, knows this, but most of us are not artists and we don't realize the subtle colors that occur in everyday scenes—flowers and foliage, and summer landscapes, where bright colors strike the eye. But the new process has been brought to perfection during the winter, and it has taught me to look for the purple-brown of the winter woodland, and the blue of the ice and of the shadows in the snow; so that I have realized, as everyone will soon realize, that it is only in color that we can make any adequate representation of the world around us.

With the coming of the new process, amateur motion pictures will be in color. There is no need any longer for us to pretend that the world is in monochrome and to represent the glorious colored world in which we live by a gray ghost on a screen.

* * *

We may perhaps anticipate a few questions with regard to the practical working of the process.

The exposure required is somewhat more than that of the ordinary panchromatic film used for making black-and-white pictures. We recommend that the next larger stop be used than that which would be used for black and white. Thus, whereas pictures in sunlight are ordinarily taken on panchromatic film at $f/11$, for Kodachrome film we recommend $f\ 8$.

For ordinary pictures, no filters or other attachments are required in the camera; but we are providing two camera filters for special purposes. One of these is used when it is required to photograph objects at a great distance, objects which in ordinary photography would be obscured by haze. The filter, in fact, plays the same part as the yellow filter used with panchromatic film; but it would, of course, be impossible to use a yellow filter, that would affect the colors. The filter used absorbs ultra-violet light only. If no such filter is used at great distances, objects will appear too blue, owing to the scattered ultra-violet light, which will record on the film as if it were blue light. Occasionally, this haze-cutting filter is useful for objects at a medium distance. For instance, when there is snow on the ground the air seems to be full of scattered blue light and the pictures will be a little too blue unless the ultra-violet light is absorbed.

A filter is desirable if pictures are taken by artificial light, since otherwise the pictures will appear altogether too yellow or red. This filter is of a light blue color adjusted to compensate for the yellowness of the artificial light source.

At the present time, and probably through 1935, the processing will be done only at Kodak Park. We are, however, building the necessary machines and later on will be prepared to process the film at our other stations throughout the world.

Up to the present we have not been able to arrange to make duplicates. It is not improbable that eventually we shall succeed in making duplicates; but this requires a good deal of special study, and we have not yet had time to work it out.

We are also not yet prepared to supply Kodachrome film in other sizes than 16 mm.—not because it is impossible to do this but because up to the present we have only been able to construct the necessary processing machinery and to work out the methods for the 16-mm. film.

The introduction of the new Kodachrome process seems to me likely to mark a great step in the history of photography. What developments may follow that initial introduction I shall not attempt to prophesy, but to me the possibilities of the new process appear very great.

What It Means To The Amateur

William A. Palmer

THE development of the Kodacolor process a few years ago added a wonderful tool to the equipment of the amateur movie maker but it did not revolutionize the field of home movies. Black and white photography has

been the standard and the color, because of its limitations, has been used for special occasions. Now is Kodachrome going to revolutionize amateur movies? Let's look at its potentialities and try to draw a conclusion:

In the first place Kodachrome opens the field of color photography to every owner of a 16mm. camera. No special or costly lens equipment and filters are necessary, the ordinary f.3.5 lens being adequate. The finished film may also be projected on any projector without any addition of special lens or color filter. This is quite a change from Kodacolor which demanded over a hundred dollars worth of auxiliary equipment to outfit the average cine camera.

Secondly the cost of the film will not be prohibitive, being the same as the present Kodacolor film. At first however Kodachrome will be furnished in 100 foot rolls only and will have to be sent to Rochester for processing. The film will be on sale at practically all stores by May 1st.

Since the Kodachrome film is much more sensitive than Kodacolor, it can be used under all lighting conditions, giving the ability to record the soft colors of a cloudy day as well as the brilliant ones of a sunny day. The exposure is controlled by the diaphragm of the lens and therefore there will be the usual depth of focus under bright light conditions.

It will be possible to photograph in color with any focal length lens, telephoto or wide angle. This is indeed a great potentiality especially for technical and scientific filming. Colored microcinematography and surgical films in color will be possible without the present difficulties.

The high sensitivity of the film will make it possible to achieve effects in artificial lighting which have never been obtained in any color process, for it will be possible to light a scene with colored light made by placing gelatin over the lighting units. To realize what this means just imagine a stage show lighted with nothing but white light. All the gorgeous color effect shown on the stage today would be absent. It will be necessary to have many brilliant lighting units in order to use colored light but it is possible.

Because Kodachrome film has no screen or embossing for color separation, it will record finer detail than previous color processes and because the final image is in dye instead of silver, grain in the ordinary sense will be absent.

The projection of Kodachrome film will be as brilliant as black and white, making it possible to project 16 mm. color pictures 12 feet wide!

It will also be possible to splice color and black and white films together in the same reel and to project them without stopping to change lenses or filters on the projector.

Although the making of duplicates has not been perfected as yet, there is hope that soon it will be possible to make duplicates in color, an operation that has been impossible with Kodacolor because of the inseparability of film base embossing and silver image.

In view of these facts it is quite probable that amateur movies will be revolutionized. Will black and white photography be a thing of the past? Our guess is that it will not be entirely. The colored film will probably always be more expensive than black and white and also some subjects have a better appeal when rendered in monochrome.



"Grecian Nocturne"

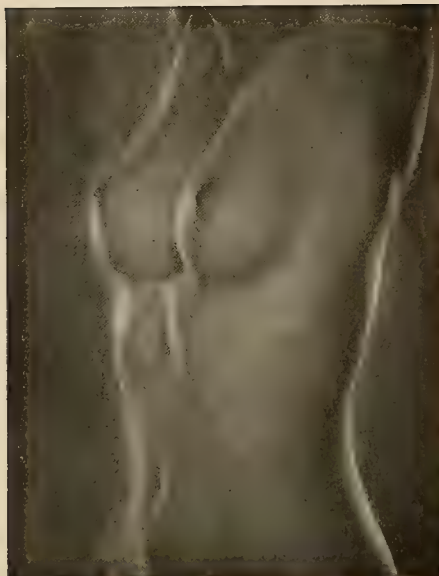
H. F. Kells

Advanced Medal Print

■ In "Grecian Nocturne" Mr. Kells displays a truly superb mastery of the art of posing. Every line in these two beautiful figures is a poem of graceful rhythmic movement. The essence of a superlative composition is that the balance of the whole, and the placing of the principal points should be certain and sure, but that the structure as such should not assert itself, for if this occurs it becomes painfully evident that the artist has striven for a certain basic form, has forced his material to conform to it, and the elements of conviction and naturalness are apt to suffer. Mr. Kells has succeeded admirably in this respect. He has established his composition with a deft gracefulness that is a delight to the eye. The basic triangular structure is carried out to perfection but does not assert itself until we look for it in analyzing the composition. Notice how exactly the triangular form is carried out, from the extended toe of each figure up to the apex in the heads. Observe how the uppermost head is subordinated by the cast shadow, and how additional strength is given to the lower head by the position of the flower, thus definitely establishing the lower head as the principle interest. All that has been said regarding the graceful arrangement of the figures, applies equally well to the drapery and the flowers and vase. They are just right.

If any controversy arises regarding this lovely picture it will no doubt concern the strength of the circular window frame. This acts as a variation of the triangular motif so beautifully carried out in figures, but some will feel that this arc is just a shade too insistent, or object to the point at which the circle of the window has been interrupted. We cannot conceive of any better point at which to interrupt the circle and certainly would not approve of showing the whole of it. In our own view the strength and beauty of the figures easily subordinates the window frame, but the suggestion of one of our judges is interesting. He felt that if the window frame were just a little lower in key that it would then be in more pleasing relationship to the picture as a whole.

Data: Composite print from five negatives. 9x12 cm. Agfa plate camera; Agfa Anastigmat lens; negatives on E.K. Portrait Pan., in D-76. Exposures: figures, 1/5th sec. at F:8, by two 500 W lamps; Setting; 3 secs. at F:32, by one 500 W lamp; Vase and flowers, 1/5th sec. at F:8, by two 500 W lamps; Sky, 1 minute at F:6.3 in June at 9:30 P.M. by moonlight. Composite print on E.K. Opal A, in D-73; copy negative on E.K. Commercial with diffusion for one third exposure, in D-73; Final print on E.K. Opal Q, in D-73. Gold-toned.



"Torso"

Beauford B. Fisher

■ Mr. Fisher has set himself a difficult task in recording this subject in such a short scale of tones. He has succeeded admirably however for the modeling is beautifully maintained and the treatment results in a lovely delicate effect that is most charming. Ordinarily we would feel that it was a mistake to treat a subject such as this, where flesh texture is so important, by the paper negative process. But Mr. Fisher's command of the process is so complete that far from degrading his textures he has succeeded in enhancing them not so much by direct recording but by subtly achieving a paper negative texture that suggests the flesh quality, and is very much in keeping with the delicate effect that he wishes to bring out. This print is an indication of the versatility of the paper negative process in the hands of one who thoroughly understands it. We hardly need to point out that the process is often abused today, and for that reason we reiterate that

it should not be used until technical proficiency has been acquired, and then only when there is a definite reason for doing so, and when the subject matter is suited to such treatment.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " R. B. Graflex; $8\frac{1}{4}$ " Dagor; 3500 W incandescent light, at F:6.8, (exposure not given); Agfa S.S. Pan. narcotized in Pinakryptol Yellow, in Glycin 1:5; Positive on Coml. Ortho cut film, in Glycin 1:8; paper negative on Defender Veltex, in D-64 soft; final print on E.K. Opal T in straight Adural.

Third Award Advanced Class

■ Mrs. Fletcher displays her well known talent for beautiful still life arrangements in this picture, but we do not feel that she has quite maintained her high technical standard in this instance. Shadow detail is lacking and the lighting plan has not been fully correlated to the subject. This last is especially evident in the fact that the knife blade has been lost, because the lighting did not carry into that area, and also probably because the exposure was a little on the short side. The knife blade needs to be more strongly shown for

it seems evident that the composition was planned with the idea of using the knife to initiate a movement into the picture from the lower right corner. With the knife falling off in value as it does this desirable effect is not fully achieved.

Data: 4×5 " Graflex; $8\frac{1}{2}$ " B. & L. Tessar; 40 secs. at F:22 on Defender X F. Pan in M.Q.; by one 100 W. and one 150 W. mazda lamps; Defender Velour Black K in M.Q.



"Apples"

Christine B. Fletcher

**Fourth Award
Advanced Class**

■ If one were to fully carry out the idea expressed in this title, it would be necessary to trim from the base up to the lower edge of the gable at the right of the print, thus eliminating the view of the ally in the lower left, and a good part of the side of the house. We are not suggesting such a trimming for the picture is much more interesting as it stands, but make this comment to point out that especially in the areas that would be eliminated with such a trimming the feeling is not "Geometric". The appeal of the picture as a whole, we believe, is much more to the emotions than to the intellect, and it conveys rather strongly the feeling of a cold gray day and the resulting curtailment of human activities. It is difficult for the reader to judge of this matter from the reproduction but it seems to us that the print would be slightly better if printed a shade deeper in tone, and that it would not lose that "cold gray feeling" that is so well conveyed at present by such treatment. A good way to judge the proper depth of printing for any desired effect is to arrange matters so that the print may be moved (without interrupting our viewing of it) from a strong to a weaker light and vice versa. If the print appears to best advantage under the weaker light it can very likely stand slightly deeper printing, and probably should be printed somewhat lighter if the reverse is true.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Ihagee; 13.5 cm. Zeiss Tessar F:4.5; film used, Coml. Pan.; print on Agfa Brovira Velvet, in Amidol.



"Geometric"

N. S. Norton

**Fifth Award
Advanced Class**

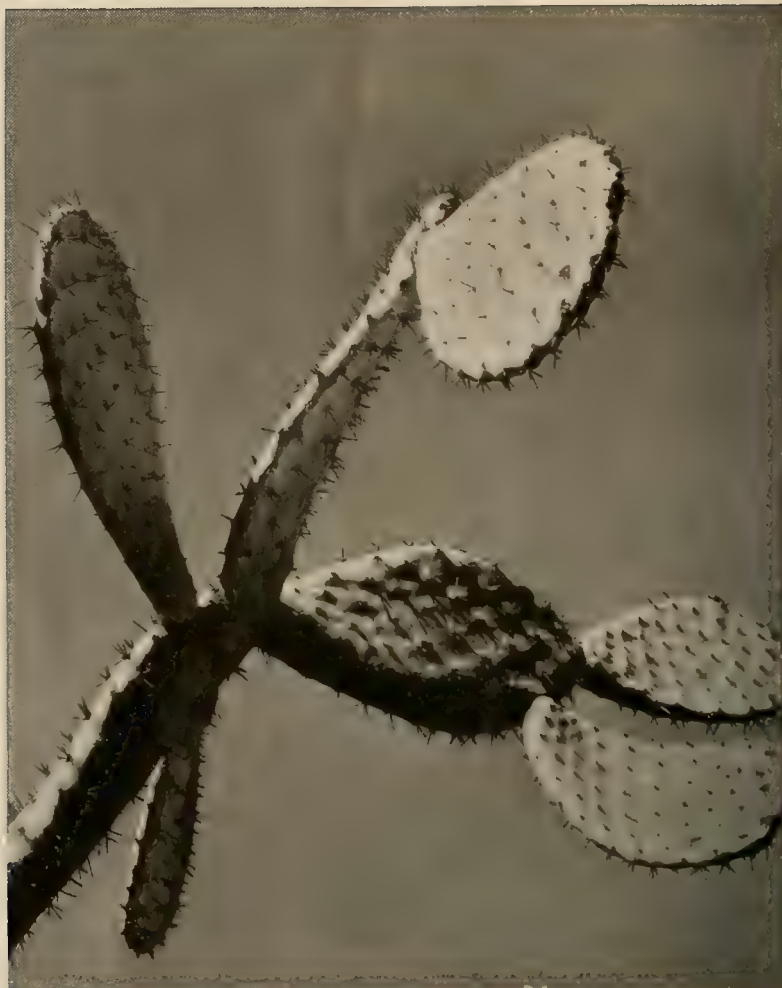


"Sycamore"

Evelyn Curtis

■ "Sycamore" is a credible piece of work which may be described as being in the spirit of "Pure Photography". Of late we have seen a number of prints that were evidently misguided efforts in this direction. They were failures because their makers apparently felt that all that was needed in such work was sharp focus and good rendition of textures. In many cases it was almost impossible to recognize the subject matter, because the whole print was simply an all-over texture. There was no center of interest, no attempt to show any form, no variation from the single texture. Notice that in this print there is a well established center of interest, that is differentiated from its surroundings both in tone and texture, and that the forms are recognizable objects and that they set up some movement of line, indicate an effort at composition or selection, and convey a sense of the third dimension. There is a slight loss of shadow

detail at one or two points, but otherwise the print is technically very beautiful.
Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Butcher Reflex; Aldis F:4.5; E.K. Pan., in D-76; Defender glossy, in M.Q.



"Cactus"

George Semonsen

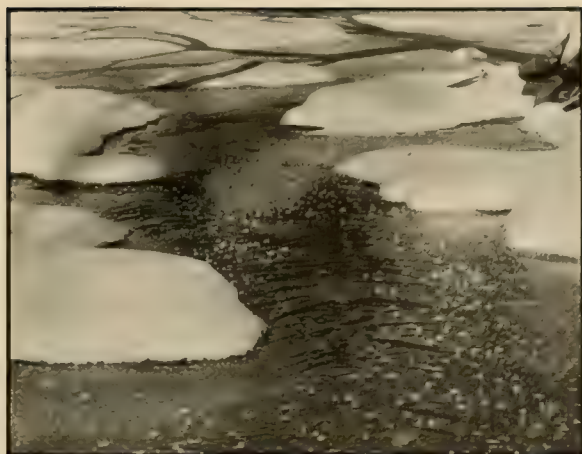
Amateur Medal Print

■ In discussing "Sycamore" in the Advanced group we stated that a number of attempts at pictures of that kind (of which this is another example) fell down because the subject matter was too hard to "see", too difficult to recognize. "Sycamore" is not entirely free from that fault and we refer back to the matter because this picture is completely satisfying in that respect and it is interesting to compare the two. Obviously isolating your subject from its surroundings and presenting it in clear relief against an even-toned background helps the eye to see and understand quickly and easily. Mrs. Curtis could not do that with her subject, but to do so is desirable in this type of work whenever possible. The one fault which we see in this print is that the pad in the upper right is blocked up so that the texture is lost. This pad should be rendered in a higher key than the others for it is facing the light, and we want it to be the brightest so that it will establish itself as the center of interest. But, texture is all important in such a picture and it must be retained throughout.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Graflex; $7\frac{1}{2}$ " B. & L. Tessar; 1 sec. at F:22, at 11:00 A.M., on E.K. S.S. Pan, with K-2 filter, in Pyro-Metol; Defender Velour Black, in Amidol.

**Second Award
Amateur Class**

■ It takes a cultivated eye to select a view-point for subject matter such as this that will cause the scattered patches of snow to arrange themselves into a pleasing composition. Notice that the eye moves easily into the picture along the path of clear water, and is then caught by the shadow of the tree and carried to the left, and can then circle back quite comfortably or leave the print at the upper left if desired. The patches of snow are nicely varied as to area and position, and this helps to maintain a sense of rhythm in the print and prevents monotony or a too mechanical appearance.



"Thin Ice"

J. P. Skillen

We do not object to the definition falling off a bit in the background, but feel that it is a mistake to permit this to occur in the foreground.

Data: 5x7" View; Goerz Celor; $\frac{1}{2}$ sec. at F:32, with K-2 filter, on E.K. Portrait Pan. in D-1; Agfa Brovira Hard, in D-72.

**Third Award
Amateur Class**



"When the North Wind Blows"

W. J. McCune

■ The flying snow in this picture is tremendously effective in conveying the impression of a bitterly cold windy day, and Mr. McCune has caught it just right. A little richer print might have been obtained, and it is definitely a mistake to print snow pictures on a buff stock. We want this picture to look cold, the colder the better. Printing on a buff stock gives a warm tone and defeats the main idea of the picture. Also the cream color of the base shows through too strongly in a high key print, so that the effect is unpleasant.

We would trim about $\frac{3}{8}$ of an inch (in the reproduction), from the base of the print. This eliminates a super-abundance of monotonous foreground, and also gives us slightly improved print proportions.

We believe that if the suggestions given above were carried out that the picture would show a surprising improvement, and become a very effective piece of work.

Data: 2 $\frac{1}{4}$ x3 $\frac{3}{4}$ " Graflex; B. & L. 1c Tessar; 1/35 sec. at F:8, with K-2 filter, on Agfa S.S. Pan.; Agfa Brovira Rough Medium in M.Q.



"Galapagos Iguana"

R. H. Cummings

ed that large heads such as this offer a fertile field for the amateur photographer who is looking for pictorial material. The animal used need not be some rare creature such as Mr. Cummings shows to such good advantage here. If it is a rarity so much the better but there is room for much good work among the ordinary domestic pets, etc., that are available to all. Sharp clean cut work is to be preferred in this field. The present print could be a trifle sharper at one or two points but on the whole it is quite satisfactory.

Data: 9x12 cm. Welta; 5¼" Voigtlander Skopar; 1/10 sec. at F:11, on Agfa Plenachrome, in Glycin; E.K. Portrait Proofing in 1:8 Glycin; printed through Mortensen Texture Matrix.

Fifth Award
Amateur Class

■ There is a fine simplicity about Mr. Collerd's print that is quite charming. Notice that the whole thing contains only five distinct elements; the side of the ship in the background, the hull in the upper right, the two tones of water, and the anchor. Simplicity is unquestionably a virtue of a high order and Mr. Collerd has made good use of it in this case. The anchor is well placed to act as the principal interest, and there is just enough surrounding material to give it the proper support. One might wish that a shade more detail and water quality could have been preserved in the shadowed portion of the water, for this area appears rather barren as it stands. Ordinarily we would disapprove of printing through the back of the paper when the picture values depend so much on texture as is the case here. However the paper which Mr. Collerd used is a stock that is exceptionally transparent and free from grain so that the disadvantage of lost texture which would appear with most papers is hardly apparent at all.

Data: Leica F; 135 mm. Elmar; 1/60 sec. at F:6.5, on E.K. Panatomic in DK-76; Dassonville Charcoal Black F, printed through back with black backing on easel, in D-72.



"The Hook"

R. B. Collerd

Monthly Competition

Contributors Please Note

Of late we have been receiving a number of entries with no indication of whether the print is intended for the Advanced or the Amateur Class. Contributors are requested to please note on the back of the print the class in which he or she wishes to compete. In a few cases the technical data regarding the picture has not been given or has been inadequate. Whenever possible please supply all technical details.

Contributing Clubs

Aluminum Camera Club (New Kensington, Pa.)	Los Angeles Camera Club
Amateur Camera Club of Buffalo	Miniature Camera Club of New York
Baltimore Camera Club	Monterey Peninsula Camera Club (California)
California Camera Club	Montreal Camera Club
Camera Associates of Huntington (W. Va.)	Norfolk Photographic Club
Camera Club of Ottawa	Pictorial Photographers of America
Camera Club of Richmond (Va.)	Photographic Society of San Francisco
East Bay (Oakland, Calif.) Camera Club	Schenectady Photographic Society
Erie Camera Club	Seattle Photographic Society
Fort Dearborn Camera Club	St. Paul Camera Club
Golden Gate Leica Club (San Francisco)	Telephone Camera Club of Manhattan
Hamilton Camera Club (Canada)	Toronto Camera Club
Japanese Camera Club (San Francisco)	Washington (D.C.) Pictorialists

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class: H. F. Kells, for the Camera Club of Ottawa; Evelyn Curtis, for the East Bay Camera Club; Beauford B. Fisher, for the Monterey Peninsula Camera Club; N. S. Horton, for the Montreal Camera Club; and Christine B. Fletcher, for the Photographic Society of San Francisco.

The following won points for their clubs in the Amateur Class: J. P. Skillen, for the Hamilton Camera Club; Russell H. Cummings, for the Monterey Peninsula Camera Club; George Semonson and Raymond B. Collier, for the Photographic Society of San Francisco; and W. J. McCune, for the Schenectady Photographic Society.

Large Clubs Advanced Class

Los Angeles Camera Club	14
Camera Club of Ottawa	14
Pictorial Photographers of America ..	9
Fort Dearborn Camera Club	8
Photographic Society of San Francisco	7
Montreal Camera Club	5
Miniature Camera Club of New York..	3
American Society of Cinematographers	1

Small Clubs Advanced Class

Erie Camera Club	5
Monterey Peninsula Camera Club	4
Baltimore Camera Club	2
Japanese Camera Club	2
East Bay Camera Club	1

Large Clubs Amateur Class

Photographic Society of San Francisco	25
California Camera Club	7
Schenectady Photographic Society	4
Los Angeles Camera Club	3
Camera Club of Ottawa	1

Small Clubs Amateur Class

Hamilton Camera Club	11
Washington Pictorialists	9
Monterey Peninsula Camera Club	2
San Jose Camera Club	2

An explanation of the function and rules of these competitions will be sent free on request, or they may be found on Page 600 of the December issue.—Ed.

The fact that your name is included in the lists below acknowledges receipt of your prints and signifies that they were included in the judging.—Ed.

Advanced Competitors

Edward Alenius, A.R.P.S., Jamaica, N. Y.
 Jack Arnold, East London, So. Africa
 Edward L. Bamford, Baltimore, Md.
 Axel Bahnsen, Yellow Springs, Ohio
 Earl K. Benedict, Oak Park, Ill.
 E. W. Blew, Whittier, Calif.
 J. Campbell, Montreal, Canada
 Philip J. Croft, Montreal, Canada
 Newton Wright Crowder, Baltimore, Md.
 * Evelyn Curtis, Oakland, Calif.
 M. K. Curtis, Oakland, Calif.
 Edwin Dancy, Houston, Texas
 C. P. C. Downman, Montreal, Canada
 * Beauford B. Fisher, Pacific Grove, Calif.
 * Christine B. Fletcher, San Francisco, Calif.
 Mitsutaro Fuku, Seattle, Wash.
 Samuel Grierson, Brooklyn, N. Y.
 A. M. Hardy, Yankleek Hill, Canada
 Lionel Heymann, Chicago, Ill.
 * N. S. Horton, Montreal, Canada
 V. E. Johnson, Chicago, Ill.
 Gunnar H. Kampe, Chicago, Ill.

W. F. Kelly, Chicago, Ill.
 * H. F. Kells, Ottawa, Canada
 Rustom N. Kharas, A.R.P.S., Amritsar, India
 Russel King, St. Lambert, Canada
 Sophie L. Lauffer, F.R.P.S., Brooklyn, N.Y.
 H. Luscombe, Los Angeles, Calif.
 Wm. T. Lyon, Chicago, Ill.
 Paul W. Macfarlane, Claremont, Calif.
 W. E. Mackintosh, Linthicum Heights, Md.
 John Muller, New York, N.Y.
 F. M. Poudna, Washington, D. C.
 Fred H. Rothstein, Bayside, N. Y.
 Helene Sanders, A.R.P.S., New York
 R. Owen Shrader, Pasadena, Calif.
 John Steinke, Cleveland, Ohio
 Werner Stoy, Los Angeles, Calif.
 K. Wakasa, San Francisco, Calif.
 Claude J. Williams, Los Angeles, Calif.
 William E. Wing, San Francisco, Calif.

Denotes Prize Winners.

Amateur Competitors

Charles W. Ackerman, Cleveland, Ohio
 Paul Ahlers, St. Louis, Mo.
 Carl Anderson, Rhinelander, Wis.
 Gustav Anderson, Amityville, N. Y.
 W. F. C. Anderson, Ottawa, Canada
 G. D. Aydlett, Norfolk, Va.
 F. B. Barnes, New Kensington, Pa.
 Wm. Edwin Booth, Richmond, Va.
 Hal A. Brown, Los Angeles, Calif.
 R. L. Bulger, Baltimore, Md.
 Edward Canby, Dayton, Ohio
 E. H. Cassidy, Shizuoka, Japan
 Margaret B. Clarke, San Francisco, Calif.
 L. Charles-Smith, Washington, D. C.
 * R. B. Colerd, San Francisco, Calif.
 * Russell H. Cummings, Pacific Grove, Calif.
 Leonard Davis, Hamilton, Canada
 D. M. Erpenstein, San Francisco, Calif.
 James R. Evans, Ocean Beach, Calif.
 Fred G. Fellows, Ponca City, Okla.
 Mortimer Friedman, New York, N. Y.
 Nat Gasr, Brooklyn, N. Y.
 M. S. Gant, Albany, N. Y.
 Barry Goldwater, Phoenix, Ariz.
 Robert E. Goode, San Pedro, Calif.
 Harry E. Goodwin, Washington, D. C.
 Clifton Hall, M. D., Topeka, Kans.
 Gilbert Harris, Los Angeles, Calif.
 G. Hashimoto, San Francisco, Calif.
 Hideo Hattori, San Francisco, Calif.
 Johanna E. Heim, San Francisco, Calif.
 Ernest F. Henry, Washington, D. C.
 Erwin Hermann, Buffalo, N. Y.
 A. L. Hill, Los Angeles, Calif.
 William Holgers, Oakland, Calif.
 Raph P. Hotis, Washington, D. C.
 J. Albert Hultquist, Buffalo, N. Y.
 Howard Johnston, Harvey, Ill.
 Wally K. Keller, St. Joseph, Mo.
 Thelma R. Kent, Christchurch, N. Z.
 K. Kita, San Francisco, Calif.
 J. Ferguson Krefs, De Forest, Wis.
 D. Lane, Santa Cruz, Calif.
 Samuel V. Lebowitz, Baltimore, Md.
 Arthur H. Lomax, Hamilton, Canada
 Louis Luh, Washington, D. C.
 Elizabeth M. Mackintosh, Linthicum Heights, Md.
 Frank R. Maddison, Tacoma, Wash.
 William S. Martin, Los Angeles, Calif.
 Ed Maxwell, Fresno, Calif.
 Miss Mae Maynard, Berkeley, Calif.
 W. H. McCullough, Yakima, Wash.
 * W. J. McCune, Amsterdam, N. Y.
 Dwight S. McDaniel, Pacific Grove, Calif.

Vincent McGarrett, New York, N. Y.
 E. H. Morrison, Fort Scott, Kas.
 Karl Huntress Moulton, Baltimore, Md.
 William Nakahara, San Francisco, Calif.
 Harland P. Nasvik, St. Paul, Minn.
 W. E. Neithamer, Erie, Pa.
 A. C. Nestle, Long Beach, Calif.
 Charles E. Ng, San Francisco, Calif.
 R. W. Osen, Schenectady, N. Y.
 Frank Ordway, Claremont, Calif.
 Dr. Harry Peake, Toronto, Canada
 F. O. Pearce, Oakland, Calif.
 A. W. Prasse, St. Louis, Mo.
 Verling Ramalho, Bicknell, Calif.
 Earl H. Ramford, San Francisco, Calif.
 Eddy Raymond, De Kalb, Ill.
 Frank X. Reilly, Pottsville, Pa.
 George W. Richards, Buffalo, N. Y.
 F. L. Rogers, San Francisco, Calif.
 Joseph Rosenthal, San Francisco, Calif.
 Paul W. Rowden, Colorado Springs, Colo.
 Stafford L. Sands, Nassau, Bahamas
 Louis Scheick, New York, N. Y.
 Lawrence Schreiber, Cleveland, Ohio
 H. F. Schwedes, Baltimore, Md.
 * George Semonsen, San Francisco, Calif.
 L. H. Shaw, Schenectady, N. Y.
 Roy Shawcross, New Kensington, Pa.
 H. E. Sheffield, Cleveland, Ohio
 W. R. Simmons, Elmira, N. Y.
 Guy Simon, Shelby, Ohio
 * J. P. Skillen, Hamilton, Canada
 Norman P. Smith, Toronto, Canada
 Jackson Stevens, National City, Calif.
 R. B. Stewart, Yellow Springs, Ohio
 H. M. Takahashi, Berkeley, Calif.
 Walter L. Tetman, Huntington, W. Va.
 George O. Timanus, Philadelphia, Pa.
 Stuart S. Towne, Los Angeles, Calif.
 H. S. Ulan, Mt. Vernon, N. Y.
 H. P. Ullman, Beverly Hills, Calif.
 S. R. Vincett, Los Angeles, Calif.
 Francis C. Ward, St. Joseph, Mo.
 H. E. West, Washington, D. C.
 Morris G. Westerkam, Baltimore, Md.
 Morgan W. Wickersham, Washington, D. C.
 Lewis N. Willman, Washington, D. C.
 Dr. Michael Wisenrad, New York, N. Y.
 Daniel E. Wulff, Middletown, N. J.
 G. T. Yang, Peiping, China
 Victor Yamakawa, San Francisco, Calif.

*Denotes prize winners.

Correspondence

About Splicing

Dear Mr. Palmer:

We take the opportunity of questioning some of the recommendations made in your article appearing in the March 1935 issue of **Camera Craft** and invite your careful consideration of the following facts:

Long before 16 mm. sound was introduced, the Bell & Howell Company worked out the Diagonal Splice, which has been accepted as an alternative standard by the Society of Motion Picture Engineers.

The Diagonal Splice was originally designed to avoid making a splice at the sprocket hole of the 16 mm. film. The distance from the edge of the sprocket hole to the edge of the film is so small that the film is apt to break very quickly when spliced at that point—assuming that this thin film edge was not torn when scraping the film before splicing.

The Diagonal Splice is longer and, therefore, stronger, apart from the fact that extra strength is obtained by missing the perforation hole. Also, it is more flexible and goes around sprockets more readily than a straight splice. This is important in connection with film life, or rather splice life; in sound work it is important because it facilitates the smooth even passage of the splice around the sound reproducing drum.

Then again, because the edge of the splice is diagonal it cuts across the reproducing slit in a way that a blooming patch, such as recommended in your article, is not really necessary.

Actual practice has effectively substantiated the foregoing and we feel sure that you will agree that the elimination of a bloop patch is desirable and, we believe you can appreciate the many advantages of the diagonal splice after careful consideration of the foregoing factors.

Very truly yours,
Bell & Howell Company,
R. Fawn Mitchell,
Manager Technical Service.

Thanks to Mr. Mitchell for bringing up the important fact that the diagonal splice, because it slices across the reproducing slit instead of chopping it, is less audible. To the other advantages of the diagonal splice as enumerated by Mr. Mitchell must be added the point that the straight splice is less obvious on the screen during projection, especially when light and dark scenes are spliced together. The diagonal splice can be seen on two successive frames appearing at alternate corners; the straight splice on one frame along the top or bottom. The thinning of a splice by scraping both ends of the film as recommended in our March issue is of more assistance to the smooth projection of the straight splice than the diagonal which scarcely needs the added operation.—Ed.

The Critics—Criticized

Dear Mr. Young:

From some of the opinions being voiced in the major camera magazines of today, one would think that the different enthusiasts were either selfish brats about ten years old, or else old men in a cantankerous stage of advanced senility. How come?

For the dubious pastime of trying to outfigure a salon jury a person goes to the darkroom at "9:00 a.m. and emerges at noon with 35 exhibition prints" with "retouched false high lights" and a "simulated moon" and "distant mountains of crumpled muslin". Is that any reason for a rival photographer to condemn those prints as "bastard mongrels"?

If the F.64's want to go in for purist things with hair-line definition on glossy paper—and the Minicams want to make 999x999 bromides and the "ex-etchers" want to make "under exposed and over developed" things "that look like tanned pigskin" or if the platinum and "gum print hounds" want to make their "wishy-washy fuzzygraphs"—what business is it of the other fellows?

I think that most of these tyrants have photography as a hobby—as a way to a

few hours of pleasant relaxation. Why condemn our neighbor just because his ideas do not tally with ours?

My own idea on the matter is that if a 12 year old lad with a box camera snaps the shutter and takes the film to the corner drug store and the resulting prints please not even one other person than himself—then the spirit of photography has been consummated. If others are pleased, well and good, but the main source of satisfaction lies in the occasional print of which he is personally fond.

Very truly yours,
I. D. Conklin.

Rebuttal

Dear Mr. Young:

I seem called into court on charges that, if proven, make it hard to decide whether I belong with the "lifers" or in the psychopathic ward. They are hard to answer under the well-applied court ruling that writing must be about photography, not photographers, and in view of the fact that April **Camera Craft** contains so much material infinitely more worth attention. Even so, I submit a few words on my own behalf and volunteer as defense counsel against another complaint.

For some time I've been trying to systematize study of reactions by various mental types to various kinds of pictures in an effort to determine what is most worth photographing, and how. That may raise my I. Q. enough to keep me out of the asylum.

I, too, showed "Por la Manana" to some uneducated day laborers—and they nearly tore up the magazine trying to get a good look, I also asked the more competent opinion of a man who does not specialize in nudes or advertise as a pictorialist but whose scenic masterpieces have for the last two years placed first in a large nationwide competition. He smiled thoughtfully and said:

"Odd, isn't it, how women can break into something good?"

In that same analysis I showed the same laborers "Youth". They, like the photographer, stood silent in respect. But one of them gave "Torse" a casual glance and turned away with the remark that it might be all right for a medical college,

but that he couldn't be bothered. Neither can I.

Until my April **Camera Craft** arrived today I would have listed "Youth" as the most beautiful and idealistic nude study I ever had seen; the only one that even the crudest mind must respect. After seeing "Golden Sunlight" and "Canyon Sand" I must modify that to "among the most".

My only other comment on my previous letter is that I find it just as hard to idolize anyone's failures because of his successes as I do to get ill-natured about it all. Too many of us make both errors sometimes, but in either case we're like the traditional wayward girl—rather to be pitied than censured. Oh well, if a thing has reached the point where we all agree, it isn't worth argument any more.

My offer of defense for someone else—although he doesn't need it—involves the eternal "Pure Photography" war and some personal experiences in mountaintop photography that link it with the above. My mountaineering has included nine ascents of 14,000-foot Colorado peaks in sun and storm, and photography on some part of each trip.

On opening the March **Camera Craft**, I was genuinely startled at the vivid accuracy with which line, mass and tone were reproduced in "North Palisade, Sierra Nevada." I had to look again to convince myself it was not Longs Peak, Colorado, just as I had seen it once.

As for tonal values in the picture, mountain skies do turn nearly that inky just before the last brilliance is cut off from the first massive clouds of approaching storms. Much of the same light is reflected on and from reddish rocks. The cause, of course, is stronger light and less diffusion of blue rays in thin upper air, with accompanying strengthening of reds and greens on the ground.

In this picture, there may have been a storm brewing or the effect may have been obtained by strong filtration. No matter; it is vividly realistic. True, the dark area at upper right is too large for the most attractive composition, but dropping the camera front or trimming the print to decrease it would have been at least as damaging.

For "Vineyard", there is proposed a more complete scale of tones in a picture that should have simplicity as its essence to carry with it the spirit it apparently is intended to represent. If there is a fault, it is rather in the amount of disorderly foreground detail. Why complicate matters further?

But to discuss whether the camera should be made to show things as they are or as the artistic eye wishes they were merely protracts already interminable quarrels. The defense rests.

Cordially,

F. C. Ward.

Traveling Salons

Dear Mr. Young:

At this writing our club has received, hung and exhibited the wonderful Camera Craft Traveling Salon and sent it on its long journey to be similarly appreciated by many.

Although having seen the prints published in **Camera Craft** previous to our showing, we were surprised, delightfully so, with the prints themselves. The texture, tone, gradation and detail which unfortunately cannot be faithfully reproduced in the cuts for publication was a delight to the eye and an inspiration to the soul. I am certain that the traveling salon policy of **Camera Craft** will go a long way toward raising the level of amateur and professional photography.

I am herewith enclosing several newspaper clippings relative to the open house exhibit of the prints.

Camera Craft shall soon be receiving prints from our membership to be entered in the monthly contests.

Cordially yours,

R. C. Alexander,

Program Chairman,

Camera Club of Long Beach.

Club Notes

Forthcoming Exhibitions

■ **Fifth International Salon of Photography at San Diego.** Under the combined auspices of the California Pacific International Exposition, the Camera Enthusiasts and the Camera Pictorialists of San Diego. Address Miss Ruth Kilbourne, Chairman Salon Committee, California Pacific International Exposition, Balboa Park, San Diego, Calif. Closing date May 1, 1935. May 29 to November 11, 1935.

■ **Fourteenth Annual All-American Photographic Salon,** conducted by the Los Angeles Camera Club. Address Jas. S. Lawshe, Chairman Salon Committee, 604 Standard Oil Bldg., Los Angeles, California. Closing date May 15, 1935. June 2 to June 30, 1935.

■ **Fourth Annual Boston Salon of Photography.** Under the auspices of the Boston Camera Club. Address Boston Camera Club, 330 Newbury St., Boston, Mass. Closing date May 22, 1935. Limit 4 prints, entry fee \$1.00. June 18 to 29, 1935.

■ **Second Annual Amateur Photographic Competition and Salon.** Address Marshall Field & Company, Photographic Section, State, Washington, Randolph and Wabash, Chicago, Illinois. Closing date May 31, 1935. Stamps must be enclosed for return of prints. Pictures will not be accepted that have been accepted and displayed in any other competition or salon. Accepted pictures will be exhibited beginning June 11, 1935.

■ **4th International Salon of Photography, 1935, Lucerne** (Switzerland). Address Secretariat, IV. Internationale Kunstphotographischen Ausstellung, Lucerne, Switzerland. Closing date June 8, 1935. Entry fee 5 Swiss Francs. Limit 6 prints, size of which not to exceed 40x50 cm. Prints may be sent unmounted. June 29th to July 21st, 1935.

■ **XXXth Salon International d'Art Photographique de Paris.** Under the auspices of the Societe Francaise de Photographie. Address M. E. Cousin, 51, rue de Clichy, Paris, France. Closing date June 15, 1935. Entry fee 25 Francs. Limit 4 prints. October 5 to 20, 1935.

■ **44th Annual Toronto Salon of Photography.** Under the direction of the Toronto Camera Club. Held at the Canadian National Exhibition. Address Secretary W. H. Hammond, Toronto Camera Club, 2 Gould Street, Toronto, Canada. Closing date August 1, 1935. Entry fee \$1.00. Limit 4 Pictorial Prints and 5 Natural History or Scientific Prints. August 23 to September 7, 1935.

■ **80th Annual Exhibition of the Royal Photographic Society of Great Britain.** Address, The Secretary, The Royal Photographic Society, 35, Russell Square, London, W. C. 1, England. Closing date August 16, 1935 entries from Overseas, August 2, 1935. Limit 4 prints. No entry fee but exhibitors must prepay return postage. Prints may be sent unmounted. September 14 to October 12, 1935.

■ **Fifth Irish Salon of Photography.** Address, The Hon. Secretary, The Irish Salon of Photography, 89 Grafton Street, Dublin, Ireland. Closing date September 14, 1935. Entry fee in British Isles 3 Shillings, in any other country, 4 Shillings 6 Pence. Limit 6 prints. Prints may be unmounted. November 2 to 9, 1935.

■ **Second Canadian International Salon.** Address H. F. Kells, Secretary, 133 Cartier St., Ottawa, Ont., Canada. Closing date Oct. 1st, 1935, no entry fee or returned postage required. To be exhibited in other Canadian cities following November showing in Ottawa.

Camera Craft Traveling Salons

The Camera Craft Traveling Salons are currently on exhibition as follows:

Group I

Newark Camera Club, Newark, N. J., May 3-13.

Orange Camera Club, East Orange, N. J., May 15-25.

Frankford Camera Club, Philadelphia, Pa., May 27-June 5.

Group II

Austin Camera Club, Austin, Texas, April 27-May 4.

Oklahoma Camera Club, Oklahoma City, Okla., May 9-19.

Miniature Camera Club of Louisiana, New Orleans, La., May 23-June 1.

Group III

Photographic Society of Philadelphia, Philadelphia, Pa., May 1-30.

Group IV

Photo Club of the Univ. of Wisc., Milwaukee, Wisc., April 25-May 8.

Lincoln Camera Club, Lincoln, Nebr., May 13-27.

Fort Dearborn Camera Club, Chicago, Ill., June 1-28.

The Dassonville Competition

The Dassonville Co., Ltd., 447 Minna St., San Francisco, Calif., manufacturers of Charcoal Black Bromide Papers, have just completed a competition among the photographic clubs in the vicinity of San Francisco, that has brought out a truly excellent group of prints. The only requirement of the competition was that the prints be on Charcoal Black paper. The San Francisco clubs competed in one group, and the Oakland clubs in another. Rewards were six dozen, 8x10" Charcoal Black, for the first prize winner in each group, and 3 dozen 8x10" Charcoal Black for each print accepted. Thirty-three

prints were accepted from the San Francisco group, and nine from the Oakland group. Prize winners were Dr. Floyd De Eads, of the Photographic Society of San Francisco, and F. Hilmer of the Miniature Camera Club of Oakland. We had the pleasure of serving on the jury which selected the prize winning prints and were impressed by the fact that several of the pictures which we had seen before were distinctly improved things when properly printed on Charcoal Black. The exhibition will first be shown by photographic dealers in the East but later on may become available for showing at clubs. When that occurs **Camera Craft** will report the fact in these columns. When the show comes to your city don't miss it.

Second Canadian International Salon

The Second Canadian International Salon of Photographic Art will be hung in Ottawa during November 1935, closing date for the show being Oct. 1st. No entry fee or remittance for return postage is required. For information address Mr. H. F. Kells, Sec. 133 Cartier St., Ottawa, Canada. After exhibition in Ottawa the Salon will be sent for hanging to other Canadian cities, so that prints accepted can not be returned until the following spring. Plans include a considerable expansion of the Salon Catalogue with twenty-five large illustrations.

Indianapolis Invitational Club Exhibit

The second annual invitational club exhibit of pictorial photography sponsored by the Indianapolis Camera Club will be held at the John Herron Art Institute, Indianapolis, during the month of May.

The plan governing the exhibit follows in essentials the lines established last year. Each club will be represented by a set of

sixteen prints, not more than two prints to be the work of any one member. Selection of sets is made by the respective clubs in any manner that their members deem best.

Invitations have been extended to, and accepted by, the following pictorial organizations:

- Boston Camera Club.
- Brooklyn Institute of Arts and Sciences, Department of Photography.
- Camera Associates, Boston City Club.
- Camera Enthusiasts of San Diego.
- Chicago Camera Club.
- Fort Dearborn Camera Club, Chicago.
- Japanese Camera Pictorialists of California.
- Los Angeles Camera Club, Inc.
- Photographic Club of Baltimore.
- Photographic Society of Philadelphia.
- Photographic Society of San Francisco.
- Pittsburg Salon.

The Indianapolis Camera Club will also show a similar set of prints, but will not compete for the Warren H. Munk Trophy which it will again award to the club exhibiting the most meritorious set of prints in the opinion of a competent jury to be selected. The trophy becomes the permanent possession of each year's winner. Last year the honor went to the Chicago Camera Club with honorable mentions to the Photographic Society of Philadelphia able editorial comment in the local press.

The roster of participants in the coming show is a guarantee that the exhibition standards will be as high as heretofore, and the Japanese Camera Pictorialists of California respectively.

The exhibit last year was one of the most successful monthly offerings of the Art Institute in point of attendance and publicity, and was the occasion of favor-

New Club

This is to announce the organization of the "Louisville Camera Club", of Louisville, Kentucky. The officers are Dr. D. M. Bennett, President, Frank Melton, Vice-president, Eastland Potter, Secretary-treasurer, and Hubert Piers, 617 Graham Street, Jeffersonville, Indiana, Corresponding Secretary. Meetings are held on the second and fourth Wednesday evenings, at the Physics Building, University of Louisville Campus.

The club is divided into two groups, the beginners' class, and the advanced amateur class. An interesting feature of the new club is the course being given the elementary class by Dr. Bennett, who is professor of physics in the University of Louisville. This is the same course Dr. Bennett gives his classes in the University. It is thought that this will be of great help to the beginners, who can also learn much through contact with the advanced group.

Correspondence and visitors are invited.

Notes and Comments

Don't Miss This Special Offer

In the advertising pages of this issue you will find a special offer made by the Union Rubber & Asbestos Co., Trenton, N. J., that is distinctly worth your while. Best-Test White Rubber Paper Cement, is manufactured by this company especially for use on papers, and is therefore the ideal adhesive for photographic mounting

purposes. Aside from excellent sticking quality the big advantage of rubber cement is due to the fact that even if a large quantity of the cement is spilled on the face of a print, no damage will result. As soon as the cement is dry it will rub off without leaving the faintest sign. In fact it will remove any dirt which may have been present on the area covered.

Anyone who has mounted more than a few prints will readily appreciate the difficulty of preventing occasional drops of cement from reaching the face of the print, and if other adhesives than rubber cement are used the print is ruined. Under the special offer mentioned above you can obtain one quart of Best-Test White Rubber Paper Cement, one Ideal Cement Dispensing Jar, and one Uracer, for only \$2.00. The ordinary cost of these items being \$3.10. The Dispensing Jar is a great convenience in handling the cement and also protects it from becoming dried out from exposure to air. Simply send your two dollars to the above address mentioning **Camera Craft** and the special kit will be promptly sent to you postpaid.

Booklet on Fine Grain

For a three cent stamp you can obtain the new Edwal booklet giving the latest information on fine grain formulas and procedure. The newer formulas which call for normal exposure as well as the older ones which require additional exposure are given and their proper use fully described. Send your three cent stamp to Edwal Laboratories, 732 Federal St., Chicago, Ill., or ask for the booklet at your dealers.

Fotoshop Specials

Fotoshop, Inc., designates two stores that are offering a number of valuable specials and helpful services for both movie and still photographers. The stores are located at 136 West 32nd St., and 4015 Broadway, New York, N.Y. This 15 year old organization offers complete movie laboratory service, using the most up to date machinery and methods, which make reasonable rates possible and good work assured. The laboratory specializes in duplicating, titling and editing of 16 mm. films. The firm also offers the movie maker 16 mm. film for as low as \$2.19, per hundred feet or Hi-speed Pan. film for \$3.75 per hundred feet, both prices include processing. Another special which they are advertising in this issue, and which is useful for both movie and still photographers is the Giant Flood Reflector. This uses the new 1000 W Photoflood lamps and delivers a tremendous volume of light. Drop in and get acquainted or if that is not possible the firm will gladly

send literature describing their varied services on request. Inquiries should be sent to the 32nd St. address given above.

Brooklynites Attention

The Camera Corner, located in the heart of the Brooklyn shopping and business district with convenient access to all transit lines, announces expansion of its Field Service. The Field Service includes the rental of motion picture film; the rental of film taking and projecting apparatus; and for nominal fees the furnishing of skilled operators for the photographing of social, business, church, school, and fraternal events. A phone call to the store at Bridge and Willoughby streets, Brooklyn, will bring complete information about the Field Service and rates.

Rolleiflex Salon

The manufacturers of the Rolleiflex Camera, Franke & Heidecke B.m.b.H., in Braunschweig, Germany, are advancing a prize contest for European users of the Rolleiflex, simultaneous with that being sponsored by Burleigh Brooks in New York, as reported last month. They have in prospect for publication next fall "The Golden Book of the Rolleiflex", in which the best pictures from both the American contest and the European will be reproduced. The book will be very handsomely edited and compiled, and will have a large distribution all over the world.

The firm of Franke & Heidecke B.m.b.H. now offers an additional prize of from \$10.00 to \$20.00 for each picture which they see fit to reproduce in this manner, in addition to a free copy of the book itself. This, of course, is altogether independent of and additional to the prizes granted by Burleigh Brooks.

Your attention is also called to the special award offered for the best aerial subject.

After the awards are declared, the pictures will be on display at 127 West 42nd St., New York City, for about ten days, then to be exhibited in various parts of the country, with possibly copies permanently exhibited at the California World's Fair.

In the advertisement of this Salon which appeared in our April issue the name of the steamship line on which the first prize 18 day cruise is offered, was

incorrectly given. The cruise is to be on the S.S. Pastores, of the Colombian Line.

Henry Herbert

The firm of Henry Herbert, 483 Fifth Ave., New York, N.Y. is featuring the compact efficient little Ihagee Exakta camera, the slogan for which is "The Only Reflecting Vest Pocket Camera". It is hard to believe that so many useful conveniences, precisely constructed, could be part of such a diminutive camera. We haven't the space to mention them here but a line to the above address will bring you full information.

Western Movie Supply, Inc.

Phil Lasher, genial head of the Western Movie Supply, Inc., has just completed an extensive tour of the east and we are glad to record that he reports a noticeable improvement in the photographic business in all of the localities which he visited. His own business is making rapid progress and has added a number of new items to their lines that will be of great interest to consumers and dealers alike. We haven't the space to give more than a hint about these new goods, but a line addressed to the firm at 254 Sutter St., San Francisco, Calif., will bring you full information. An outstanding new item is the seven speed Keystone 16 mm. movie camera which retails for only \$44.50. The new projector stand, and a unipod manufactured by the Da-Lite Screen Co., are proving very popular as is also the 1600 foot spring steel reel for 16 mm. film which is a DeVry product. A complete stock of Mickey Mouse, Silly Symphony, and Cine Art Films are available in both 16 mm. and 8 mm. sizes. Perhaps the most interesting news of all is that the firm has made arrangements to re-distribute to retail dealers, 16 mm. and 8 mm. prints of Pop Eye The Sailor, and Betty Boop, extremely popular Max Fleischer productions released by Paramount. The firm is handling many other articles of interest which we will report on at a later date. In the meantime a line to the above address will bring you valuable information.

Kin-O-Lux

Kin-O-Lux is an excellent low-priced 16 mm. movie film which may be obtained

either from your dealer, or direct from Kin-O-Lux, 105 W. 40th St., New York, N.Y. Ortho type film is supplied at \$3.00 per hundred feet, or \$2.00 per fifty feet. Panchromatic type film at \$3.50 per hundred feet, or \$2.50 per fifty feet. These prices include processing at the firm's New York laboratories. A special feature of the Kin-O-Lux service is the hardening treatment which each film receives as part of the processing operation, and for which no extra charge is made. This treatment is called "Scratch-Proofing" and is valuable in protecting the film from abrasion.

Expansion at Trainor & Parsons

Any visitor to Trainer & Parsons these days can not fail to see that business is good with this progressive firm. The amount of space devoted to the photographic side of the business has been more than doubled, the stock considerably augmented, and the popular Harry Fazackerly is now assisting Roland Calder behind the counter. Surely this is good news. It seems proper to record the fact that Mr. Calder is the man primarily responsible for this growth. He is a careful and painstaking student of photography, who is always willing to pass on the knowledge which he has acquired, and he has been actively assisting all photographic groups in many ways for he is an ardent and skillful pictorial photographer. The expansion now appears as a deserved reward for a good job well done. If you haven't already done so drop into 228 Post St., San Francisco, Calif., and see the new lay-out.

Doris Rogerson at Smith Bros.

Another firm in this locality that is making rapid progress is Smith Bros., 1721 Broadway, Oakland, Calif. Greater space has recently been allotted the photographic department and the stock has been increased in many categories, but especially to include a full line of the excellent Zeiss cameras. We have had several inquiries regarding the whereabouts of Doris Rogerson who made so many photographic friends while with Adams & Co. These friends are hereby notified that she is now in charge of photography at Smith Bros., at the above address, where

they will always be assured a pleasant welcome.

Hirsch & Kaye Western Distributors for Mortensen Texture Matrix

We learn that Hirsch and Kaye, 239 Grant Ave., San Francisco, Calif., have recently acquired the distribution of the Mortensen Texture Matrix for the western states. Dealers are assured prompt service and attractive discounts. It seems to us that most pictorialists appreciate the advantages offered by the Mortensen Texture Matrix, but we have been surprised that apparently relatively few miniature camera workers have grasped the fact that this Matrix offers an excellent means of eliminating all trace of "grain" in large prints. The Texture Matrix literally absorbs grain, and has the effect of imparting an apparent increased sharpness to the image because of the crispness of line in the texture. Try it yourself, the above mentioned firm will gladly furnish full information.

Protect Your Exposure Meter

The modern exposure meter is a delicate and valuable instrument and should be treated as such. Therefore a case for the meter becomes a virtual necessity. Mr. J. L. Hamar, 35 Druid Hill Rd., Summit, N.J., will supply stout leather belt cases for Weston Universal, or Leica - meters, postpaid for only \$1.45.

Discarded Film Purchased

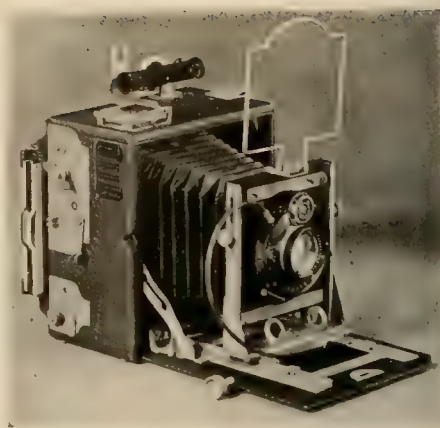
H. L. Schwartz & Sons Mfg. Co., Niles, Mich., will purchase discarded film. Anyone who has a quantity of such film on hand should communicate with the firm at the above address to obtain shipping instructions and a price quotation.

New $3\frac{1}{4}\times4\frac{1}{4}$ Speed Graphic

A new $3\frac{1}{4}\times4\frac{1}{4}$ Speed Graphic camera has just been announced by Folmer Graflex Corporation, Rochester, New York, manufacturers.

Patterned after the 4x5 Speed Graphic, which has been adopted almost universally by press photographers from coast to coast—and given certain individual features—it is an instrument which will appeal to scores of camera users.

Of special note are the following features: the regular "A" lensboard ($3\frac{1}{4}\times3\frac{1}{4}$ ") is used on the new camera,



New $3\frac{1}{4}\times4\frac{1}{4}$ Speed Graphic

permitting the ready interchanging of lenses between other Graflex cameras such as the $3\frac{1}{4}\times4\frac{1}{4}$ Series D; the unusually generous bellows draw of 12" permits one-to-one copying and enables the use of the convertible protars; a range finder may be had as optional equipment—the camera when so ordered having a built-on turret mount to accept the finder.

Here are some of the specifications of the new instrument:

Over-all dimensions: $4''\times6\frac{1}{4}''\times6\frac{3}{8}''$

Weight: 3 lbs., 8 ozs.

Bellows draw: 12"

Lensboard: $3\frac{1}{4}''\times3\frac{3}{4}''$

Picture size: $3\frac{1}{4}''\times4\frac{1}{4}''$

View finders: Three

- (1) Folding, reducing optical peep-sight
- (2) Wire finder on front standard working in combination with a peep-sight on top of box
- (3) Rear ground glass focusing screen which is permanently attached on the camera when fitted with Graphic back—is a separate interchangeable accessory on the camera fitted with Graflex back

Range finder: Optionally available; of finest quality; instantly detachable from the turret mount permanently affixed to the camera.

Shutter: Graflex Focal Plane; between-the-lens auxiliary shutters available as accessory equipment.

Shutter speeds: Focal Plane Shutter provides 24 instantaneous speeds ranging

from 1/10 to 1/1000, and "time".

The company advises that shipments have already been made and that well-

stocked camera departments throughout the country now have the new 3¼x4¼ Speed Graphic available for demonstration.

Our Book Shelves

Making A Photograph, by Ansel Adams.

Published by Studio Publications, Inc., of New York, 7x10", 96 pages, stiff board covers, price \$3.50.

In this book Mr. Adams gives the important facts which must be understood and mastered if one wishes to produce good "straight" photography. The text is made doubly instructive because each major point is carefully illustrated. The illustrations are an outstanding feature of the book, are tipped in, and of such excellent quality that many will believe that they are actual photographic prints. No attempt has been made to write an exhaustive text book, but Mr. Adams has been principally concerned with laying out the ground work for a simplified straight-forward photographic procedure, and his emphasis on simplicity of methods and equipment, and on standardized procedure, is a virtue of the book. Mr. Adams has fully accomplished his purpose in this volume (which incidentally has already proven its popularity) but there is still room for a discussion of this type of photography that concerns itself more with the problems of the advanced worker.

Ceskoslovenska Fotografie, V. 8½x10½" cloth bound, \$3.50.

This is the fifth edition of the Czechoslovakian Annual, and it in every way maintains the high standard of previous volumes. It is the only annual whose reproduction quality is equal to the justly celebrated Das Deutsche Lichtbild. The book contains sixty-four excellent pictures that are well worth studying. Most of the work is the result of straight-forward photographic procedure and is beautiful from the technical as well as the artistic standpoint. We would say that this volume is necessary to those who are seriously interested in "straight" photography.

Album of the Third Lucerne International Salon. Published by C. J. Bucher A.-G. of Lucerne. 8½x11" cloth bound price \$4.00.

Sixty-four excellently reproduced pictures are shown in this volume. They are selected from the Third International Salon at Lucerne and the work of several American pictorialists is included. Generally speaking there is more of the romantic type of photography shown here than is to be seen in the Czechoslovakian Annual mentioned elsewhere in these pages. All of the pictures shown are of high quality and the book is ample proof of the fact that the Lucerne International has become one of the really important photographic exhibitions.

Leonard Misonne. Published by Die Galerie, of Vienna 11½x12" stiff board cover, price \$4.00.

When we say that this volume is worthy of representing the work of Leonard Misonne we are paying it a very high compliment indeed for Mr. Misonne is undoubtedly an outstanding photographic personality and his work has consistently stood out wherever shown. The quality of the reproduction is fine indeed and an unusually heavy coated stock of first rate quality is used. The large page size insures that the pictures will be adequately shown and a sheet of onion skin protects each page from damage. Beyond a doubt this book will grow considerably in value during the coming years for only 1000 numbered copies have been printed, and the beauty of the pictures and of the book itself insures that its popularity will endure. Those who desire copies should place their orders with this magazine promptly for the edition will soon be gone.

Classified Advertisements

OUTFITS FOR SALE

◆Orthoplan graduated filter, fits up to 2 1/4. \$6.75. Portrait lens suit small reflex, \$7.50. No. 1a Graflex box, \$11.75. Dallmeyer Telephoto, suit reflex or view, \$13.75. Clarke, c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆8 mm. Cine Kodak, 8 mm. Model 25 Projector, each in case, and screen. Used three months, \$45.00. A. Pasek, 5325 Fleet Ave., Cleveland, Ohio.

◆9x12 cm. Avus Camera, Skopar f:4.5 in Compur, pack adapter, 8 holders, focusing back, and case. Fine condition, \$32.00. J. N. Moreno, 1229 W. Main St., El Paso, Texas.

◆35 mm. DeBrie Motion Picture Camera with 50 mm. 3.5 Krauss lens and tripod, complete, in fine condition. \$250.00. C.O.D. with Examination. Frank Jacobs, 1213 Third Ave., Seattle, Wash.

◆Leica outfit: Model E, like new; 90 mm. f:4 telephoto, autofocus; prior model Universal viewfinder; combination case for four lenses; sky filter; sunshade; cable release. \$135.00. H. M., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Graflex: 3 1/4 x 4 1/4 Series D Revolving Back, Carl Zeiss Tessar f:4.5 lens, film magazine, pack adapter, carrying case, K2 mounted circle filter. Purchased new in February of this year and used for only 36 negatives. Sacrifice for \$120.00 cash. Costs \$172.00 new. A real buy. T. Major Edgecomb, Red Bluff, Calif.

◆35 mm. Universal Motion Picture Camera Outfit. Consisting of Universal 35 mm. Camera and Case; 6,200-ft. film magazines; 2-in. f:3.1 Cooke lens; 6-in. f:4.5 Cooke Aviar lens; set of five masks; and Universal Tripod and carrying case. All just like new. Costs new \$822.25. Our price \$235.00. Eastman Kodak Stores, Inc., 91 East Sixth St., St. Paul, Minn.

◆17" Dallmeyer Telephoto lens f:5.6, \$175.00 value. \$65.00. \$12.50 Justophot, leather case, \$2.50. Eastman 3 1/4 x 4 1/4 Film Pack Tank \$2.50. One case (30 doz.) Eastman Speedway 4x5 plates, perfect condition, \$12.50. Conley 5x7 view camera, f:6.3 anastigmat lens in shutter, leather case, 3 double film holders, focusing cloth, like new, \$50.00. Box 306, San Jose, Calif.

◆Voigtlander Avus, 3 1/4 x 4 1/4 with Skopar Anastigmat f:4.5 in Compur shutter; 7 cut film holders; film-pack adapter; Wratten K2 filter; leather carrying case. Excellent condition. Price \$40.00. W. S. Sheldon, 3441 - I St., Sacramento, Calif.

◆Revolving Back D Graflex with Carl Zeiss 6 inch lens, magazine, and case. Cost \$156.50, will sell for \$100.00. Allen Photo Supply Co., 222 Market St., San Francisco, Calif.

◆2 1/2 x 3 1/2 Voigtlander Avus, f:4.5 Skopar lens in new Compur shutter with self-timer; Eastman Film-Pack Tank; filters, copying, telephoto lenses in adjustable holder; \$30.00 cash. H. M., c/o Camera Craft, 703 Market St., San Francisco, Calif.

CONTACT PRINTING FRAME AND MASK
FOR 1/2 VP NEGATIVES

25c

KOHIM LABORATORY

35 HOWARD STREET TRENTON, N. J.

Interesting Souvenir Free!

Amateur. Gunther, Postfach 20,
Porzellang, Wien 66, Austria

Are You Going "Miniature"?

Write in for liberal trade allowance for your equipment on Leica or Rolleiflex.

Leica Bargains—B & L f:2. 3" telephoto, Auto-focus, etc., \$55.00

MINIATURE CAMERA SHOP

1600 Post St., San Francisco Ph. WA 4484

◆Contax Model II Camera with f:2.8 lens; Telephoto Zeiss Sonnar Lens f:4; 13.5 cm. Universal view finder; Zeiss Tessar Lens f:8, 2.8 cm.; Zeiss Sonnar lens f:1.5, 5 cm.; two color filters, K1, K2; Sunshade; leather case for above; five magazines; two developing tanks (1 broken); 3 small leather bags with two separators and 1 cap; film cutter; strap. Practically new. \$618.80, net \$450.00. Allen Photo Supply Co., 222 Market St., San Francisco, Calif.

◆Leica 135 mm. f:4.5 telephoto lens. Autofocal for D or F camera; Vidom Universal Viewfinder; practically new; \$72.50. H. T., c/o Camera Craft, 703 Market St., San Francisco, Calif.

OUTFITS WANTED

◆Victor model 3 or 5; or Bell & Howell 70-E; or 70-D; also accessories. State condition and best cash price. E. J. Miller, 2522 Warren Ave., Cheyenne, Wyo.

◆Model "D." 4x5 Graflex. Without lens preferred. Also Cut film magazine. R. 418, Y.M.C.A., San Pedro, Calif.

◆Film Pack Adapter and Plate Holders for No. 3A Argus Anso Speedex Camera. C. Peters, 360 Richmond Ave., Syracuse, N. Y.

◆One Dry Mounting Press, must be in good condition and reasonable. David Keeble, Box 358, Palo Alto, Calif.

FOR SALE OR EXCHANGE

◆2 1/4 x 2 1/4 Rolleiflex Camera with f:3.8 lens which accommodates 117 film only. Will sell reasonably or trade on Leica Model D or Contax Camera. C. H. Ross, 1825 Yale Drive, Alameda, Calif.

POSITIONS WANTED

◆Mr. Employer: Do you need a young assistant? Postcard to Preston Keene, 241 "B" St., Portland, Maine, brings information. Age 20.

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Pictorial Make Up

William Mortensen

Part II

IN my last article I dealt with the applications of straight make up to pictorial and portrait photography. This month I shall consider some of the more exaggerated forms of make up:

Character make up

Old age

Grotesque.

Before going further I would suggest that you pause and refresh your memory on what I have previously said about the fundamental relationship of make up to anatomy. All make up must be built on the underlying facial bone structure. This dictum applies even more strictly to the extreme forms than it does to straight make up. Much of the process of aging is simply a revealing of structure that was more completely covered in youth. And the most effective forms of grotesque, such as medieval gargoyles or Oriental masks, derive their effectiveness from their basic reality.

In addition to the materials listed in the last article, the following things are required for the types of make up hereafter described:

Cotton

Collodion

Grease paint (Factor's No. 26)

½ inch soft bristle "bright" brush.

Character Make Up

"The proper study of mankind is man." In these words Alexander Pope summed up the thought, the strength and the weakness of his Eighteenth Century. In humanistic periods such as his, this intense self-interest of mankind leads to the creation of outstanding works of portraiture. Thus in England, the Eighteenth Century brought forth Romney, Reynolds, Lawrence, and numerous others whose concern was not with tricks of painting, nor with problems of Pure Form, but with human beings. So the artist in our century, which finds itself so curiously in tune with the crisp, prosaic thinking of the Eighteenth, when he turns to portraiture assumes often the manner of the psychologist. In our studies of character make up it must be remembered that the matter of ultimate interest is not the make up, but the character.

Character make up is not merely a matter of applying paint imitatively. Strict exactness of costume, literal fitness of feature, are of much less importance than the imaginative quality of the interpretation. Interpretation, not imitation, must ever be the end of character portrayals. To present Lucretia Borgia as she might have looked *if* she had consented to sit for her photograph, *if* any photographer had had the nerve to approach her, *if* there had been any photographers in the Sixteenth century, interposes too many *ifs* between the picture and its enjoyment. Rather a picture of Lucretia Borgia, since we are on the subject of that dangerous lady, should perhaps tell of the vitality of the Renaissance, and of the animal spirits, unscrupulousness, and opportunism of this famous family of "climbers". Or if you were of a mind to follow the defensive interpretation laid down by Baron Corvo, you might even present her as a vastly misunderstood lady, of thwarted *hausfrau* instincts. Of course the picture should not stray too obviously from known likenesses, but in any case *the idea is much more important than the image*.

Costume is usually a necessary part of a character picture. By its use the suggestion of age, period and nationality may be emphasized. Costume also serves to comment, directly or ironically, on the subject of the picture. Photographically speaking, the best costumes are not usually to be found at the costumers. Almost any sort of costume may be suggested by the use of a small number of photographically effective drapes. The use of such drapes may perhaps form the subject of another article: for the present I wish merely to assure you that the lack of access to costumes is no reason to avoid costume pictures if they interest you.

Successful attainment in this type of picture makes considerable demand on the model. Mere physical likeness to the ideal subject does not suffice, nor is it even necessary. What is required is interest, intelligence and imagination. Acting ability of the conventional type is apt to be a handicap rather than an aid. My best results have been obtained with non-professionals. The professional actor is apt to approach the problem from a conventional technical standpoint, and to impose his own professional personality, the result is affected rather than sincere, theatrical rather than pictorial.

The ability and qualifications of the model must always figure largely in choice of subject matter for character pictures. But given a model of flexibility and imagination, the development of picture material may proceed in two ways: from the model to the subject, or from the subject to the model. The personality and plastic qualities of the model may suggest certain character treatment. Or a previously selected character may be adapted and interpreted in terms of a given model.

In the instance illustrated, "Niccolo Machiavelli", (see frontispiece) the make up plays an important but subservient part. Its function is to add the final touch of verisimilitude to an already established characterization. Something of the present model's lineaments suggested attempting a study of Niccolo of Florence—he of the secret smile, obsequious and aloof, with sidelong mocking eyes that observed but did not commit themselves. When the psychological basis of the characterization was established, certain small



"The Seventh Age"

Portrayed by Lois Moran

William Mortensen



"June"

Without make up

make up changes were made in conformity with known portraits of Machiavelli. The eyebrows were covered with grease paint and narrower and more arched eyebrows drawn in. The cheeks were hollowed by delicately blended shadows. Added width of the cheek bones was suggested by small high-lights of cold cream. By rouging the lips their full length their thinness was emphasized.

Old Age

The simulation of old age by the use of make up requires very clear understanding of the structural basis of the face. The haphazard addition of a few lines and crowsfeet (which is as far as many attempts in such make up go) serves but to accentuate the youthfulness of the face to which they are applied. Such lines are superficial and unimportant signs of age. What is important is the loss of flesh and slackening of muscles that reveal facial structure that was concealed in youth. Such changes are not necessarily disfiguring: sometimes a pudgy and insignificant face takes on dignity and power in the aging process.

In characterizations of this type, imaginative co-operation on the part of the model is again demanded. Much more than the manifestation of simple physical tokens, old age is a state of mind. It is experience, it is resignation, it is weariness, perhaps, of eyes that have seen too much and of ears that have heard too many foolish words. Unless a model can suggest this quality, the best of make ups will avail nothing.



*"June" make up
roughed in.*

Proper choice of costume does much to carry out and strengthen the suggestion given by the make up. Notice in the picture of June how the impression of physical decay is developed by the few frayed rags. In the picture of Lois Moran (which is one of a series of character studies) the idea of frailness and utter decrepitude is carried out by the lines of the dress.

In such make up studies as those under discussion, a feeling of complete reality must be created, no matter how much artifice is actually involved. A make up that is obvious is a bad make up. The type of make up that I am about to describe is a kind of painting in three dimensions. As the marks of old age are most clearly revealed in a contrasty forty-five degree angle light, the whole scheme of the make up is planned with this type of lighting in view.

In making the old age study of "June" (which is illustrated in its three stages) careful study of the bone structure of her face was made, both by what the eye revealed and by what the finger tips discovered, so that the final result might be anatomically consistent. Then the skull depressions were shadowed with Factor's No. 22, as shown in the second figure. Note, by comparison with the picture of the skull in last month's article, how closely the second stage of the make up follows the skull contours. Half closing the eyes will accentuate the skull-like aspect of this stage.

Then the broadly blocked-in shadows are blended and the smaller lines are worked in. Remember that the lines simply represent shadows, and must give a three dimensional feeling. In general, *blend the shadows toward the source of the light*. The major depressions should be given added emphasis by carefully placed high-lights. These high-lights may be produced by a slight touch of cold cream or by light grease paint. Don't spend too much time in developing small details. Work rather in terms of large masses and general effect. Step back once in a while and view the progress of the work critically through half-closed eyes.

When the make up is complete, the unique and indispensable contribution of the model comes into play. In the picture of June, the relaxed muscles of the face accentuate the impression of old age, and the heavily drooping lids make the eyes look weary.

In making the final print, the various processes of Projection Control are frequently used with advantage. For example, in "Daughter of Gobi" with last month's article, a certain amount of elongation was employed to emphasize the grotesque aspects. In the picture of June, local printing was used to intensify the illusion-aiding shadows, and, by local dodging, luminosity was added to some of the cross shadows resulting from the forty-five degree light.

The Grotesque

The word "grotesque" comes from the same root as "grotto", and is thus linguistically connected with the rites of deities that were worshipped in underground temples. Even today some of this subterranean connotation is attached to grotesque art. Though we acknowledge them less freely, we are still plagued with many of the primitive fears that afflicted our cave-dwelling ancestors. We have spread the light of our knowledge a little wider, but the outer darkness still swarms with dimly visioned shapes of dread. Grotesque art is a very human gesture of defiance, making faces at the great dark, thumbing the nose at the unknown.

There is a definite fascination in that which we fear. And in representing or contemplating the object of our fear in art forms we are able to obtain a release from its domination. Even the most determinedly healthy-minded of us are susceptible to the lure of the morbid; the unceasing demand for mystery stories proves this. The Grand Guignol theatre in Paris for years provided a steady diet of morbid shockers. Numerous modern artists have frequently expressed themselves in terms of the grotesque—Hogarth, Daumier and Goya. In the field of black-and-white Beardsley and Alastair found the grotesque their most natural and effective vein.

The grotesque is a field in which photography has done very little. Yet experiments in grotesque may prove very advantageous to the photographer. The constant and hampering trend of his medium is toward excessive literalness. Work with the grotesque compels him to cast aside the props and crutches of similitude and likeness and to give his imagination a chance. Even though he subsequently returns to the tight chamber of Things-as-they-are, he will find it occasionally thereafter pierced with windows opening toward the unknown and swept with winds from beyond the stars.



"June" with
completed make up

The foremost exponents of the art of grotesque make up are the actors of the Chinese theatre. The portrayers of villains and demons in the Chinese drama have developed a series of highly conventionalized patterns of face painting, magnificent and alarming in red, yellow, white and black. The designs are traditionally established, and many of them are centuries old. Similarly traditional, though much less completely conventionalized, were the make ups of the characters of the *Commedia dell'Arte* of the Sixteenth and Seventeenth centuries.

In the motion picture field the best known exponent of grotesque make up was, of course, the late Lon Chaney. Rather close association with him in two of his pictures enables me to speak with a certain amount of authority regarding his use of make up. He especially exploited the method that I am about to describe.

The collodion make up is a difficult process and should not be undertaken without due preparation and understanding. I described the make up employed in an earlier section as a species of *painting* for three dimensional effect. The use of collodion takes us into *sculpture*. Hence its use must be based on a sculptural sense of structure. Chaney's make ups were definitely structural in their conception. Thus, no matter how extreme they were, they gave a terrifying impression of reality, of flesh and bone. Never did they violate the admonition laid down in the beginning of these articles that make up must not violate the basic bony structure of the face. To be sure, the structure was often tremendously warped or

exaggerated; but it was never lost sight of or contradicted.

Rather than experimenting haphazardly with collodion make up, it is best to attempt a definite problem. Study the subject's face carefully in advance and visualize clearly just what is to be done to it. A grotesque mask or a Goya illustration may serve as the starting point for a make up. The accompanying picture of "Belphegor", for instance, was suggested by some of the curious cuts in *Le Dragon Rouge* and *Le Grand Grimoire*.

One caution needs to be given before I describe the mechanics of the process. The solvent of collodion is ether; so, lest you anaesthetize your model, it is wise to work in a well ventilated room with an electric fan going.

The major added protruberances are modeled in wads of cotton and tentatively fitted to the face. A coat of collodion is applied with the brush to the face at each point where the additions are to be made and cotton is quickly pressed in place. It is necessary to work swiftly, as the collodion dries rapidly. As each wad of cotton is attached, its outstanding fluffy edges are pressed down to the face with the collodion filled brush. After all the wads are attached to the face, their modelling is adjusted with the fingers. If additional protruberance is needed, it is built onto the cotton already in place with more collodion. With small wisps of cotton, each brushed into place with collodion, the modelling is refined and the large wads are blended into the contours of the face.

In the illustrated instance, "Belphegor", the brow was built out large and heavy over the eyes: this made the eyes small and brutal and caused the forehead to recede. The nose was built up to meet the line of the brow. The cheek bones were built out and the jaw was widened.

After the cotton is attached and modelled to the desired shape, it is varnished with several coats of collodion. When the collodion is dry, grease paint is applied over the entire face. Considerable care is needed in working the paint over the attached cotton. The paint must be applied quite heavily, owing to the different colour of the cotton and the flesh. After a smooth coat of paint has been applied, it is usually necessary to emphasize the eyes and to accentuate the modelling with the lining pencil.

In photographing such a make up, the forty-five degree type of lighting is used. This gives the maximum emphasis to the crude rugged modelling.

* * *

In taking leave of the subject of make up, I feel somewhat like one who has set the baby on a powder barrel, given him a box of matches to play with, said "Good by, darling," and closed the door.

Certainly I am putting into your hands what will prove dangerous information for most of you. Make up is an exceedingly tricky and risky business, and relatively few people have the instinct for its photographic use. Most of you will turn out a few bad jobs of make up and call it a day. But a few, I trust, will catch the fascination of these procedures and be led into painstaking study and original experimentation.

Once more I urge you to carry out your practice in silence and in secret. And when the results are awful (as they undoubtedly will be) please don't pour objurgations on my blameless head or start leaving the



"The Demon Belphegor"

William Mortensen

Collodion Make Up. The same model as "Niccolo Machiavelli".

hideously butchered countenances of your friends, neighbors and wives on my doorstep. Don't say I didn't warn you.

Your attention is called to an error appearing in the first installment of this article. Two of the face powders recommended were designated as "rochelle". The correct name is "rachele".—ED.

Two For A Quarter Telephoto And Magnifying Lenses

Albert Jourdan

OF between thirty and forty amateur photographers about whose outfits I know a lot only one has a lens of twelve or more inches focal length. A few of the others have two lenses, but most have only one, and those conform to the rule of thumb that the focal length must equal or exceed slightly the diagonal of the picture area. And as all those fellows work with from $2\frac{1}{4} \times 3\frac{1}{4}$ to 4×5 cameras their lenses run from say four to eight inches focal length, and hence they are unable to make either moderately wide angle or telephotographs. But nearly all of them have wished, intensely at times, that they had lenses of very long equivalent focus, and only the rather high cost of telephoto lenses keeps them from owning some. Then besides, they realize that their small cameras do not provide long enough bellows draws for more than, say, $\times 2$ magnifications, and when those boys hanker for big negative images of distant objects their yearning is vast and their ambitions soar to about $\times 5$ or $\times 6$ magnifications. But they figure, too, that such magnifications call for cameras of such long bellows and sizes that their cost and rare use is prohibitive, so is a vain desire which they sublimate by attempting the utter impossibility of making large, yet *good*, pictures of very distant objects by enlarging comparatively tiny images to great proportions. Let me try to show, by an astronomical analogy, why that is an impossibility:

There are tens of thousands of double stars, so called because they are separated by no more than, say, $1/100$ of a second of arc to a full minute or so, and are, therefore, telescopic objects only because imperceptible, as doubles, to the unaided or nudist (naked) eye. Those which are say as much as five seconds apart are easily discernible because easily *separated*—as doubles—by a telescopic magnification of 100-diameters; a power well within the capacity of an instrument of two inch aperture and the usual thirty inch focal length, with an ocular of a bit more than a quarter inch focal length. But to separate companion stars which are, say *one* second or slightly less apart, a magnification of about 500-diameters is required, and that is possible only to an instrument of about four times greater aperture and focal length; or, say an eight inch of 120" focal length.



Fig. 1

But at times the smaller instrument shows a star image as being elongated, or as an ovaloid, instead of as a mere *point* surrounded by the inevitable diffraction rings; indicating thus that it is probably a close double which that particular telescope—perfect though its *definition* may be—cannot separate because the maximum possible magnification is insufficient. And, were a photograph of that ovaloid star-image made, and it were subsequently magnified further, the result of the additional magnification (enlargement) could be only to aggrandize the ovaloid, and never to separate that ovaloid blurr into the image of *two* stars. If, however, the original magnification and ensuing photo-image were pushed to 25 or 50 per cent more—say to 135 diameters instead of only 100—it might suffice to just separate the two components neatly and, therefore, every succeeding magnification (enlargement) of the original photo-image would result in further separation of the *two*, distinct, point-images of two companion stars instead of the mere ovaloid blurring of their unseparated blending.

The analogy to terrestrial photography with very small cameras and short focus lenses is this: that—due to what is called “the optical angle”—*details at a distance* are small and become smaller, tiny, the more as the distance increases; that, for example, two houses which are close together yet which, at from say a quarter mile distance, can be *seen* as being *two* houses, may, at a half mile or more distance, blend into only *one* house both visually and photographically according to the *lack* of separating power of the particular eyes or lenses used. And as the average eye may be said to have a separating power equal to that of a ten inch photo lens, how can a lens of only six inch focus—let alone one of three inch or shorter focal length—represent distant objects as the much longer focus eye sees them?

All that is irrespective of the possibly perfect *definition* of the lens used, for here, only the performance of *separation*—through magnifica-

tion—is involved and so plays the dominant part. It were better, for example, to photograph a conglomeration of distant objects into *separate* entities with a 24-inch lens of inferior defining power than to try it—and fail—with an 8-inch of superior definition. Because while the inferior definition of the former would none the less *separate* the details and so make them capable of further magnification (enlargement) the superior defining power of the latter could not possibly counterbalance its impotency to magnify and separate the details into more than a jumbled blurr.

In brief, great enlargement of an otherwise perfect though very tiny image only results in enlargement of blurs of distant objects, while slight enlargement of the magnified image made by an inferior but longer focus lens separates and so reveals the distant objects clearly. And so, as it is very easy to make a really long camera (tube or box type) of wood, or even of cardboard and paper and glue mainly, and to buy really serviceable lenses of from 8 to 80-inches focal length for only twenty-five cents a *pair*, what is there to stop a fellow from having and using a set of long focus lenses of say 12, 18, 24 and 36-inches? The lot for only One Dollar.

If the image projected by a six inch lens is taken for standard of size, then the image made by a 12-inch lens equals x2 telephoto (or magnification), that of a 24-inch x4 and of a 36-inch x6 magnification; and so on. So if one has the lenses all that is needed is a camera of sufficiently long bellows draw. But as said above, such things, say a view camera of 30 or 36-inch bellows draw, are very costly. But after all, just what is a camera?

It was originally called "camera obscura," or chamber-dark; meaning a dark chamber or room, and more particularly in later days a dark or light-tight box. The earliest cameras obscura were rooms in some building. Much later, when modern photography came into being, the immovable chambers were transformed into small, portable, dark-inside boxes to which the old designation clung. But soon the "obscura" half of the name was dropped and the other half, "camera," used alone. Thus it seems that so long as a Camera (box) is absolutely "obscura" inside, it doesn't matter what it is made of, how big or little or heavy and strong or light and flimsy, so long as it serves the purpose. Therefore a 20, 30 or 40-inch long cardboard box which is light-tight, and has a lens fastened at one end and a groundglass at the other—even if both are attached only with glue or binding tape—is as suitable for making photographs as a similar box made of steel, wood or something else. And surely, any ingenious fellow can make a long cardboard box one end of which can hold, light-tightly, his small hand camera's back and roll or cut film holders, and he certainly can devise many ways of fastening a simple lens to its other end and learn to operate it efficiently with, say, a cap for shutter.

As for the usually costly affairs, very long focus lenses: Fig. 1 represents two *pairs* of them which I bought for only 25c a pair in one of a chain of so called Fifteen Cent Stores. They are obtainable in focal lengths of 8, 10, 12, 14 and 16-inches, and so on in 2-inch step-ups to 26-inches, whence there is a break or leap of six inches to 32-inches, thence on again to 80-inches. And nearly all of them are of meniscus form, or are concavo-convex lenses with a curve of long radius on one



Fig. 2, 24 inch lens



Fig. 3, 12 inch lens

side and short radius on the other which makes them thicker at the center than edges, and happens to be the best form for one-glass lenses used for photography. The two pairs shown in Fig. 1 have, like all the others,

labels pasted on their glasses, bearing numerals thiswise: $\frac{3.25}{12}$ --and $\frac{1.62}{24}$

The upper numerals are their dioptric values, which mean little to any but opticians and optometrists, but the lower ones tell all that photographers need know,—their focal lengths, in inches. Of course they are not matched for stereoscopic work, one of my pair of 24-inch being about $24\frac{5}{8}$ th inches and the other $24\frac{1}{4}$ inches, and the next pair I might buy could be say $23\frac{1}{4}$ inches and $24\frac{3}{4}$ inches respectively. But that is near enough. One mustn't be too particular over two-bit specs. And naturally they have all the aberrations of simple, one-glass lenses; particularly the prime spherical and chromatic aberrations, which crop out most apparently. And of course they project a curved instead of flat image field. But as in photographic use such as I advise they are, relatively, extreme long focus lenses for use only on small picture areas, little of their image-fields far from the axis is used, so the resulting definition is surprisingly good.

Without going into unnecessary explanations or details, a peculiarity of chromatic aberration is, that with a lens substance of given refractive index, the longer the focus of a lens is—relatively—the less chromatic-fringe interference there is with the quality of the image. Besides, in these days of extremely fast emulsions which are sensitive to all colors, and with dirt - cheap yet excellent plain gelatine filters, it is easy to

cut out most of the most troublesome color, blue, by use of deep yellow filters,—and of course filters are necessary in telephoto work. And by using say a red filter which cuts out all blue and green, or a green one which cuts out all red and blue, the problem of chromatic aberration is overcome and there remains only spherical aberration. But as for that, as it is caused by the fact that rays which pass through the lens at or near its periphery are more refracted, or bent inward, than those which pass through it at or near the center, thus bringing all rays to focus on different planes to form a blurred instead of sharp image, it is more or less overcome as one more or less cuts down, or diaphragms, the aperture and uses more of the center of the lens.

Those very cheap but useful spectacle lenses are of $1\frac{1}{2}$ -inches clear aperture inside their rims. Therefore a 12-inch one has an *f* value of 8 and a 24-inch is of *f*:16 at full aperture. So if a disc with a $\frac{3}{4}$ -inch hole in it is put in front of the 12-inch lens it is thus diaphragmed, or stopped down, to a quarter its area or *f*:16 and if put in front of the 24-inch lens the latter then works at *f*:32. Similarly, a $\frac{3}{8}$ -th-inch hole stops the 12-inch to *f*:32 and the 24 inch to *f*:64.

But there's no need to go farther into the various aberrations and stops, nor the horrors of the curvilinear distortion which begins to appear not far from the center of the field and gets worse and worse the nearer one goes to the edges of the full, potential image fields. Results are what count, so the illustrations herewith either praise or damn spectacle lenses completely. Figs. 2, 3 and 4 are of my nearest neighbor's house in the gulch where I live. They were shot from a window of my den because, as it was a cold January day, and very windy beside so unfit for outdoor telephoto shots, my shelter provided some comfort for me and assured partial steadiness to the camera and thus good enough negatives for illustrating this article. And all the illustrations herein, by the way, were made under adverse instead of most propitious conditions, and rather carelessly too. Therefore they are just what they should be for such an article, examples of mediocre results with such lenses instead of the very best; photographs whose qualities or lack of quality can easily be duplicated by almost any, very inexperienced worker.

Figs. 2 and 3 were made with the lenses shown in Fig. 1, on the fastest of panchromatics and through a $\frac{3}{4}$ -inch diaphragm, which made a working aperture of *f*:32 for Fig. 2—the 24 inch lens—and of *f*:16 for Fig. 3, the 12 inch lens. Note that the definition all over the area of Fig. 2 is much better than over Fig. 3. That is not simply because a relatively smaller stop was used but, mainly, because through greater focal length and so larger image more of the center and less of the marginal field was used to cover the 5 by 7 areas. Fig. 4 was made many months earlier, in the Spring or Summer, with a $5\frac{1}{2}$ -inch anastigmat; from the same window though not precisely same point of view. But as the distance from the subject was the same for all three shots the relative sizes of images made by a nearly six inch, a twelve and a 24 inch lens, are truly represented. A K3 filter was used for Nos. 2 and 3 and a K1 for Fig. 4. Swiftly alternating sun and dull light, due to flying clouds, made identical lightings and proportional exposures next to impossible for Figs. 2 and 3.



Fig. 4. $5\frac{1}{2}$ inch lens

Fig. 5 of Flaming Youth standing very proudly beside its beloved Automotive Junk—which cost \$13.50 cash, in its tenth year of rattle-banging along roads—was made with the 12-inch spectacle lens, at stop $f:16$, with K3 filter, one second exposure in the rather dull light of 4 P.M. on a January day. Its good central definition leads me to think that such a lens is good for say 3x4 areas, an 18-inch one good for 4x5 and a 24-inch for 5 by 7, and that these spectacle lenses are certainly suitable for portraiture in good light.

Fig. 6 and its companion is of the view on the other side of my house, and was done in the mid-forenoon sunlight of a bright January day but looking into a bank of thick mist over the river and distant city. It was made with the 24-inch lens through K3 filter and $\frac{3}{8}$ ths stop, so at $f:64$, with an exposure of about one second. The farther shore of the river is *more* than a mile from the point of view.

All of these spectacle photos were, necessarily, focussed at the stop used, because though the changes involved are slight, they are apparent at times and troublesome if enlarged, and every change in aperture slightly changes the exact focal point.

Really interested readers who are ingenious scarcely need suggestions about how to apply spec lenses to their needs or desires, for they can invent ways and devise means to those ends. So I think that brief description of how I made and assembled the items for a usable set-up for the lenses will suffice. The short black length of tube at the left end of the upper row of items in Fig. 7 is the lens barrel proper. It was made by wrapping, or rolling a $2\frac{3}{4}$ -inch wide strip of white cardboard (which is not much thicker than the average double weight sensitized paper) around the rims of two of the lenses; those being used as gauges to assure a snug



Fig. 5, 12 inch lens



Fig. 6, 24 inch lens

fit. When the first turn or roll was made glue was applied to the cardboard and was daubed on continually as the rolls increased, until a three to four ply tube was formed. Then the loose end of the strip was fastened or held by a short piece of lantern slide binding strip. Next, some of the black paper which comes between cut films was glued inside the barrel, for as it is a matte black, it is a good substitute for opticians' black because it doesn't reflect much very obliquely incident light. Then the rims and outside of the barrel were covered with black binding strip too; that, though, mainly for the sake of looks.

The next item is a shorter, narrower barrel which fits snugly into and slides in or out of the first one, and was made similarly; and a disc of cardboard with a $\frac{3}{4}$ -inch hole in it—cut by compass and safety razor blade and smoothed off with sandpaper—was taped on at one end of the barrel to act as permanent diaphragm, of f:16 for the 12-inch and f:32 for the 24-inch lens. And the third item to the right, a ring of half-inch width, and of the same diameter as the small, inner barrel, was made likewise, and is intended to act as spacer and retainer for the lens and, also, to act as filter holder. The fourth item, the white cylinder, is the start of another similar outfit, and is remarkably tough and firm for such flimsy material. The items in the front row are, a disc of plain gelatine K3 filter (cut from a $1\frac{1}{2}$ -inch square which cost 40c) to fit the lenses; one of the 12 and of the 24-inch lenses, and a disc with a $\frac{3}{8}$ th hole in it to act as f:32 stop for the 12 and f:64 for the 24-inch lens.

In Fig. 8 A represents the barrel proper; B is the inner barrel and permanent diaphragm; C is one of the lenses, with its convexity turned toward the emulsion and concavity outward, the curves being highly exaggerated; behind that is the filter, D, and pressing lightly yet firmly against both to hold them in place is the ring E; and F represents a lens board, which may be made of cardboard and to which the barrel can be stuck with glue or bits of binding strip—due care being taken to see that it is fastened perpendicularly to the board's plane. And as for shutter, at worst an empty, three-for-a-dime when full, condensed milk can, capped over the barrel, will do nicely for such slow snaps as are likely to be made; say a quarter or third of a second. But one factor must be emphasized:



*Enlargement
from Fig. 6*

that all items must be made true as possible, that is, square with each other, with rims of barrels and rings perpendicular to their lengths, and so on. Otherwise the lenses will be mounted askew and their images will suffer accordingly.

I was lucky enough to have, among others, a 5 by 7 view camera, which has a total bellows draw of 27 inches, and still luckier to find that the cardboard barrel would screw—though of course it has no threads—into the flange of a lens board for a $5\frac{1}{2}$ -inch anastigmat. But had I not had those conveniences I certainly would have done what I herein advise others to do; have made camera lens board, groundglass and film holder backs, out of cardboard in about the same way as the barrel and stops. In the present case I monkeyed with these spec lenses out of mere curiosity to know just what spectacle lens do now that extremely fast emulsions, which are highly sensitive to all colors, are universally obtainable and very cheap and easy to work with. Besides, one of these days I may *have* to make a x10 to x20 image of a distant object, and now I know just what to expect from long focus lenses at only two bits a pair.

But a few words of warning are in order right now: If like myself you are a wearer of spectacles, and have one or two discarded or obsolete pairs, don't, **DON'T** try to make a photograph with them; or, if you do



Fig. 7

and it looks fierce, do not conclude that there's a catch in this story and that spec lenses won't work. Your glasses, like mine, may be corrected for more or less astigmatism and other visual flaws. If so, they will project images as cockeyed as is everything you look at *without* your glasses on. So be sure and use simple lenses, which are not corrected for anything and are intended only for mere presbyopia.

Such readers as are not interested in long focus lenses and telephoto work may be interested by another capacity of those cheap spec lenses. That is, that in their shortest focal lengths, say 8 and 10-inches, they are the very best focussing magnifiers, for these reasons: Consider the usual, high priced focussing magnifiers which are virtually a low power microscope; a barrel made to slide over a groundglass and whose lens is focussed for the *inside* of the groundglass; that is, for the image-plane. They are made to be held flat against the groundglass, with their axis perfectly perpendicular to its plane. And move them ever so little off contact, or hold them aslant the least bit, and the magnified images fuzz up because they are then out of focus. And so, just try and use them when and where they are most needed—to examine the edges of an extreme wide angle image—and, in that case, so soon as one gets half way off from the center of the image field next to nothing is visible. That is because the image-forming rays which pass from the lens to the groundglass to form the marginal and corner images run obliquely across the axis of the magnifier, which, therefore, misses instead of captures them and so is effectively blinded. And if, as said above, it is held aslant to catch those oblique rays, it goes out of focus and so is useless, and can

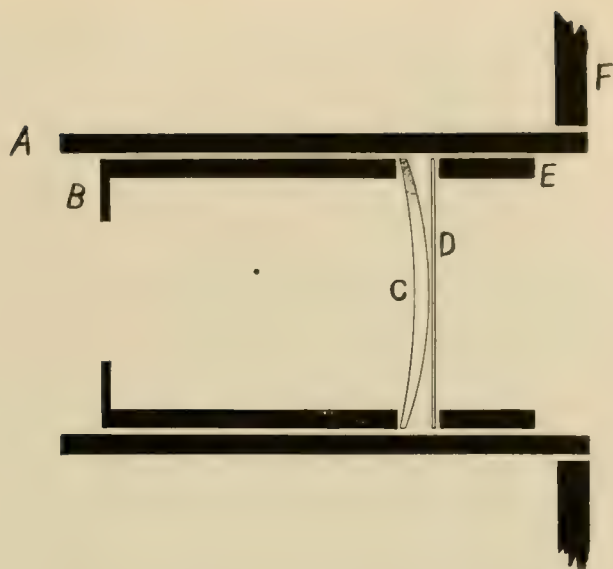


Fig. 8: A, the barrel; B, inner barrel and permanent diaphragm; C, the lens; D, filter; E, pressure ring; F, the lens board

even be dangerous through possibility of telescopic effects if used on a very transparent and finely ground glass.

With magnifying *specs*, however, all these conditions are either changed or nonexistent. There is no chance for telescopic effects to occur between the camera's lens, which is a potential telescope objective, and the spec lenses, which—like the regular focussing magnifiers—are potential telescope oculars; and one may duck and bob one's head around every and any way to look, here and there, to catch and to see, clearly, even the images made by the rays which pass most obliquely through the lens.

Without glasses on I cannot see anything nearer than four feet away, and that only in soft, astigmatic focus, blurry and fuzzy like a prize winning salon print. With my favorite reading glasses clear, anastigmatic seeing distance is about fourteen inches off, which is too far to see *sharply*, microscopically, enough to do good focussing. But by putting a pair of 10-inch, two bit specs on over those well corrected eyeglasses of mine, I thus get to see, sharply and comparatively microscopically, anything within seven inches of my eyeballs; I then can shove my eyes and snout into the focussing hood of a Graflex and see as well as anybody. A pair of 8-inch specs of that kind would reduce the clear vision distance by another inch, and when a fellow can see, very clearly, the image on a groundglass which is only six or seven inches away, he doesn't need an additional magnification. If he then cannot focus his images sharply what he needs is the services of several glass makers, opticians and optometrists because his eyes are on the blink.

Nature Photography In June

Neil Wayne Northey

WHEN James Russell Lowell wrote
"And what is so rare as a day in June?
Then, if ever, come perfect days;"

he expressed the sentiment of the nature photographer as well as the poet. Everything considered, no other time of year offers such a diversity of subjects with such ideal conditions for work of this kind as does June. As a rule the light is good, and few strong winds may be expected to interfere with operations after March has had its blow. Nothing is more disturbing to the nature photographer than wind, which sways the flowers and causes the birds' nests to move with their branches, to say nothing of the twigs that dip into an important part of the view at the exact instant of exposure.

As for opportunities:

"Now is the high-tide of the year,
And whatever of life hath ebbed away
Comes flooding back with a ripply cheer,
Into every bare inlet and creek and bay."

And so while June stirs the poet to eulogize its charms, it also invites the nature photographer to picture its wonders, whether he is interested in birds or bugs or botany.

When spring arrives the student of nature should have everything in readiness to make the most of his opportunities. Birdlets, flowers, insects, and other things in nature, mature and change almost over night. That which is a cocoon to-day may be a beautiful moth and flown to-morrow. It is only by well-planned and systematic work with constant watchfulness that anything like *complete results* can be obtained.. Of course, chance exposures are frequently highly desirable in themselves; but it is only by persistent effort that *life histories* can be completely illustrated. Sometimes the work requires a period of years to finish, each year adding a link that may have been overlooked or which required time to forge. Such is often the case in the insect world while we are following the various cycles, and it is but one factor in nature photography which leads the worker on and on.



Ptarmigan (Lagopus leucurus).—Made at an elevation of about 13,000 feet in Colorado in July, immediately following a local shower. Sky cloudy over considerable portion, but sun shining through light haze in this spot. Exposure made with 9x12 cm. Kawee, Meyer-Gorlitz Anastigmat Trioplan lens (F/4.5) of 13.5 cm. (5¼-inch) focal length; Compur shutter. Exposure believed to be 1/25 second at F/9 in midday. Eastman Standard Pack developed in Pyro in tank (Formula D1). Print on Brovira developed with Amidol (Formula AM-3).

Bird photography is, generally speaking, at its best in June. With the exception of the early brooders, as for example certain of the Raptors, which take up family duties as early as February and March, activities are at their height in June, but this, of course, depends somewhat upon the latitude and the season. The young of insect-eating birds do not arrive as a rule until the season when insects are plentiful. Birdlets of the fruit-eaters are in evidence during the time of fruit. But in each case nest building and egg laying invite the photographer some weeks ahead of the actual appearance of the young. Late spring offers an opportunity to photograph the nests with the young of some of the earlier nesting birds and the nests with eggs of the later nesting birds. Adult birds are also in better plumage then than they will be later while they are molting, which means that they have a better appearance and are easier to identify.

The photographer should be very positive in his identification of natural history specimens, for without this information his pictures lose

value scientifically. If there is any doubt regarding the kind of bird photographed (and this applies in general to other subjects), a complete description should be jotted down immediately (a binocular is almost indispensable for bird study), with a record of date, locality, location and kind of nest, number and description of eggs or young, habitat, and observations; and it is well to keep exposure data also, which will be useful when making other exposures under similar conditions.

An efficient exposure meter is very helpful when it can be employed, which is usually only when photographing inanimate objects. When one is photographing wild life there is usually no time to consult a meter. At such times I always carry my camera with the shutter adjustments already made and, if practical, the focus scale set if the focusing is to be done by scale. Ordinarily one knows before hand the maximum distance beyond which the image would be too small to be useful. The shutter is set at a speed to stop ordinary movement, and it is seldom necessary to change it. The stop is set to take care of maximum light and it is never changed to a smaller opening—always to a larger one if at all. It is the work of but a moment to open the stop if light conditions require it. With such subjects as birds and animals there is usually no time for arranging the background or choosing a pose, and it is well to make a number of exposures if the subject permits. So-called protective coloration frequently offers quite a photographic problem in exposure and development. Note the illustration of the Hen Ptarmigan (*Lagopus leucurus*) in summer dress against the alpine vegetation. In winter this bird is even more difficult to photograph, with its white plumage against a snowy background.

The nature photographer who would be most successful should spend time in the study of the habits and haunts of the wild creatures, for this will help him to find nests, burrows, and other shelters; and this information also serves as a valuable aid toward identification at times. Local conditions, of course, change the habits of animals and birds more or less, and each worker is likely to find interesting facts which do not exactly follow definite rules.

One advantage in photographing birds at nesting time is that their nests keep them in proximity so that after a little patient waiting in a hidden retreat or a camouflaged blind the enthusiast is sure to be rewarded with their return. It is not advisable to be too persistent on the first or second visit if the birds are shy. If the parents are kept away from the nest too long, the eggs or young may become chilled. Certain species of birds will have nothing more to do with their offspring if they have been touched by humans. If the camera has been adjusted for work so far as possible before the nest is approached, it not only saves alarming the birds unduly but may result in a picture that would otherwise be lost. Too frequent trips to a nest by the same route are likely to leave signs which cats are quick to follow, with disastrous results to the birdlets.

When photographing a bird's nest it is best to tie back any branches that may interfere with the view rather than to cut them, for removing



California Ground Squirrel (*Citellus beecheyi*).—Made in midday in California in September under burning sun. Exposure made with 6x6 cm. Rolleiflex, Carl Zeiss Tessar lens (F/4.5) of 7.5 cm. (3-inch) focal length; Compur shutter. Exposure on Plenachrome film developed with Pyro in tank (Formula D-1). Small part of negative enlarged about ten diameters on Brovira developed with Amidol (Formula AM-3).

them with a knife leaves the nest exposed to the danger from predatory birds, animals, and thoughtless persons; and the changed appearance may frighten the parent birds away.

In summer a very good way to attract birds is by keeping a clean bath for them in a secluded nook, and especially in localities where water is not plentiful. Soon various species will be visiting the place regularly, and it is a simple matter to note the branches and other rests which they use most frequently and there focus the camera.

In June wild flowers and many of the flowering shrubs and other forms of vegetation, including the grasses, are at their best before the heat and drought of summer has dried them. In pictures of such subjects if a bee or other insect of known size is shown resting on one of the flowers or stems, it will serve as a scale for indicating the size of the specimen and will add interest. Ordinarily in nature pictures everything that is not essential should be omitted and especially everything that is not a natural part. Whenever an extraneous object is included for the purpose of indicating size it should be something small and unobtrusive

and should be kept subordinate to the principal subject. They should, of course, be on the same plane or their relative sizes will not be correct.

June with its warmth and flowers is also a time for insects. These may be photographed where they are found, but ordinarily it is more advantageous to quiet them in a cyanide jar to prevent their struggling, which would cause certain ruin to their delicate wings, antennae, and legs, and then carry them home for photographing. Accurate focussing at close range is necessary to bring out details and to produce a fairly large image of so small a subject as an insect, and this is often impossible in the open. Close work with a long bellows extension requires a corresponding increase in exposure proportionate to the increase in bellows extension, and this makes the exposure for live insects in the open most difficult at times.

This increase in exposure may be estimated by taking the square (in inches) of the bellows length when the lens is focussed at infinity (say the focal length of the lens if it is known), and the square of the bellows length when it is extended for use on the near object and increase the exposure in the same proportion. Thus, if the normal bellows extension is 5 inches, and if the object is to be photographed original size, which would require an extension of 10 inches, the value of *any given stop* would be decreased, requiring an increase in exposure as 100 is to 25, or four times. The use of a ray filter is not always necessary, even when photographing such highly-colored objects as moths and butterflies. Most artificial light is yellowish enough to give good rendering if panchromatic films are used. For the worker who is busy with other things during the day, the night photography of insects offers unlimited opportunity for nature photography when it is impossible to devote time to other kinds.

In spring most of the young of animals appear at the entrance of their dens and burrows, there to sport and play in their "front yard". Some of these like the Common Woodchuck or American Marmot (*Marmota monax*) and the Chipmunks (*Tamias*, etc.) of various species are diurnal. And although pictures of them are common, they afford excellent practice for the beginner. Pleasing results can be obtained by setting the camera so as to include the space around the mouth of the burrow and waiting at a distance with a string attached to the shutter trip. A covering of brush and leaves, grass, or even a weed draped over it will hide the camera from timid animals and protect it from the sun.

Such was the method used when photographing the California Ground Squirrel (*Citellus beecheyi*) illustrated herewith, except that no screen was needed to hid the camera—a miniature. This squirrel is a common species of the Pacific Coast and one would have no difficulty identifying it from the picture.

Virtually all animals of the Order Rodentia are diurnal, or partly so, and are therefore "game" for the nature photographer. Even the Beaver and the Muskrat often appear around four or five o'clock in the afternoon to start their night's work of dam or house building while there

is still sufficient light to photograph them by with the help of a fairly fast lens and SS film.

The Carnivora, on the other hand, are mainly nocturnal, stealing forth at eventide to prey upon the sleeping birds and mammals and the smaller species of night travelers. But that does not mean they cannot be photographed. Many of the Weasel tribe, which includes the Skunk group, the Badger group, the Otters, and the group consisting of the Minks, the Martens, and the true Weasels, may be met in early evening or late in the morning as they are starting out or returning from the night's hunt. Some of them may even be seen in midday, having been driven from their dens by high water, by an insatiable appetite developed by months of forced hibernation or scarcity of food during the winter, by love-making, or by some other circumstance in which a family disagreement might figure. If their dens can be located, a close watch with camera or a set camera with flashlight will produce results well worth the effort if care is used not to leave human scent at the den of timid animals and if advantage is taken of prevailing breezes when the camera is set.

If the photographer wishes to exercise his skill to the utmost, let him try picturing the wild members of the Dog Family. Almost every locality is represented either by Wolves or one of the species of Fox. Although these animals usually carry on their hunting at night, still they are frequently seen during the day; but their extreme fear of human scent, which their keen noses are quick to detect, makes it next to impossible either to approach them or to leave a set camera except under most favorable wind conditions.

I have found that the modern miniature cameras hold many advantages over the larger instruments for certain phases of nature photography. Because of their small size they are quicker to get into action, they are more easily handled in difficult places, and the economy with which they can be operated permits one to make several exposures of a subject without undue expense. However, expense should never stand in the way when there is an opportunity to make a good nature picture. Miniature cameras are easy to conceal and do not arouse the suspicions of the wild folk, to say nothing of the fact that they are frequently at hand when a chance opportunity offers a picture when the bulkier outfit would have been left home. Many of my best nature pictures have been made with miniature cameras.

Photography In The Fog

William S. Davis

AN old-time Mississippi river-man once delivered a discourse upon the subjects of "spirits"—ranging all the way from the supernatural kind to spirits of turpentine and the variety of spirits he had in the cabin of his boat!

One might, in a similar vein, go into the subject of "fog" of different sorts liable to be encountered by photographers: Chemical fog produced by decomposition of materials or catalytic action; fog due to old age in sensitive materials; dichoric fog in negatives; light-fog caused by leaky bellows and joints or undue exposure of materials to darkroom illumination; halation; light-scatter fog induced by a dirty lens, and finally end up with natural atmospheric fog seen out-of-doors.

I don't, however, propose to inflict such a foggy homily upon the reader, but shall instead confine myself to a consideration of the pictorial qualities that may be extracted from the last mentioned kind of fog on my list—the only kind of a beneficial character to photographers—the fog which blankets the sea and adds to its mystery; which fills valleys with mist; which rises from upland slopes on a summer morn, and veils the distance with the infinite.

To the photographer bent upon making a photograph of a mountain peak fifty miles away, or producing a panoramic record of anything that shall be filled with the maximum amount of detail obtainable, the best of fogs is, of course, an annoyance. And many others, but especially those who have been told to "make snapshots only in bright light with the sun at your back", will wonder what use a picture-maker can have for atmospheric fog, since naturally it obscures many details, thus lessening the quantity of matter recorded. This being so, the question raised by many is: How can a photograph become greater by reducing its contents? The answer to this question lies in the definition of "contents." From the record-maker's viewpoint this means clear, sharply defined, detail and plenty of it. From the artistic viewpoint it means the power to convey what the picture-maker wishes to express—something in the way of personal reaction induced by impact with the material, but not conveyable



"Willows in the Fog"

Wm. S. Davis

by a mechanical recording of details. In other words, the material in such cases is employed to stimulate the spectator's imagination and set in motion a train of thought, which can only be done by the power of suggestion. While many different elements are combined in a successful picture, experienced pictorialists well know that the suggestive power of a picture is enhanced by leaving something to be imagined, instead of making such a full statement, so to speak, that nothing remains to be said or thought about the material.

Bearing in mind the foregoing explanation, it is evident why the presence of fog or mist may often be an aid to the photographer using marine, landscape and architectural material for pictorial purposes, since it can be utilized to suppress unwanted detail and at the same time accent or emphasize salient qualities in that which is retained.

Whether the action of fog is beneficial or otherwise naturally depends upon the combination of material present, and the mood to be expressed. One thing should never be forgotten: This is the fact that the nature of our surroundings is revealed only by means of light, and the aspect of any combination of objects depends both upon the angle of lighting and the quality of illumination. In a visual sense, then, the "effects" produced by light and atmosphere create "subjects" by determining the relationship of different areas to one another, and to a great extent moulding their forms as well. So we may say that fog can be the *subject* of a picture as well as an accessory or contributory element; and there are different kinds, from the cold leaden fog that envelops one in a murky gloom at mid-day to luminous, sun-shot, mist that floods a landscape with soft radiance.

Fog in general, by diffusing the light and lessening its intensity, tends to reduce general contrast, which of itself is often advantageous when dealing with material that appears harsh in a clear atmosphere. But its most characteristic action is to cause very much greater flattening of contrast in material located in receding planes than takes place in nearby objects. Such change is most pronounced in connection with dark tones, which lose depth rapidly, causing objects as they recede to eventually disappear entirely; the distance at which this occurs depending of course upon the density of the atmospheric veil. Such marked differentiation of planes allows the photographer to show near objects in well defined masses against a simple grey background, when on a clear day the background would be filled with countless detail destructive to the chosen pattern. Or, less drastically, objects located in a number of different planes may still appear as elements in the composition, yet be so separated tonally as to enhance the depth of perspective and avoid confusion in rendition and accent.

Another point that has a direct bearing upon composition is the tendency of fog to create a series of flattened tone-areas that in many cases cover the greater portion of the picture-space. This usually adds to the breadth and unity of the composition as a whole.

Little need be said as to the technique of photographing fog effects. Enough exposure to register properly the darker tones is called for, but over-timing (which is sometimes helpful in clear intense light) is best avoided, since there is no need to further reduce the range of contrast present. Though the actinic power of the light itself is less when filtered through fog than is the case on a clear day, this is partly, and sometimes fully, offset by such factors as the shorter scale of tones in the subject; the prevalence of lighter tone areas, and the indirect diffused light thrown into the shadows by the light-scattering action of the water-particles with which the air is filled.

It is desirable to use orthochromatic or panchromatic material, as the



"Rocky Coast"

Wm. S. Davis

light, particularly in late afternoon, often has a yellow cast. But filters as a rule may well be dispensed with, since they tend to cut through the fog and reduce the atmospheric effect. One exception may, however, be noted in giving this advice, and this is when some white object, such as a building or boat-sail, stands amid a setting of pale blue-grey mist. Then a very light yellow filter will be required to preserve the slight tone differentiation existing, and thus prevent the complete disappearance of the object.

As with all subjects exhibiting a short range of delicate tones, care should be taken not to push development to a point where blocking up of the lighter tones into solid masses occur. A rather thin negative allows more flexible control over results in printing.



"A Misty Perspective"

Wm. S. Davis

It is hoped the illustrations accompanying these comments will not only serve to show the action of fog on material of a familiar character, but give, as well, some indication of its pictorial value. The one entitled "Forest Sentinel" indicates the marked separation that can take place between foreground objects and those but a relatively short distance away. This feature is also exemplified in "Woodland Fog." Both were made the same morning of a July day between 8 and 8:30 o'clock, in a dense, but luminous, atmosphere. In making each, the lens was pointed in the direction of the sun, and the resulting *contre jour* effect tended to make the nearby material somewhat darker in tone than it would otherwise have appeared. The exposure was, however, sufficient to prevent the silhouetted forms from being represented by masses of solid black. Such a rendition

would destroy the tonal harmony that is necessary to successfully interpret a fog or mist effect. "Forest Sentinel" received an exposure of 1/25 second at f8, and "Woodland Fog" 1/10 second at the same aperture, the longer time in the latter instance being due to the nearby objects being more shut-in by surrounding trees. In both cases regular Kodak film was used—not Verichrome. Under the conditions prevailing, however, the results would be practically the same had the latter type of film been used.

"Rocky Coast" was made about 9 o'clock on the same morning as the two woodland subjects—the woods being near the shore—but on account of the open nature of the shore scene the diaphragm was changed to f16, with the shutter set at 1/25 second. The fog nearly blotted out the distant curving shore, permitting the rocks to be used without interference in the formation of a composition possessing a bold diagonal division of major tones.

Our remaining two illustrations, "Willows in the Fog" and "A Misty Perspective", were made in much duller light on a January afternoon, the first being exposed at 2 P.M. and the other a little later. Each received an exposure of 1/2 second at f11 on Ensign roll-film. It should be explained, however, that a somewhat fuller exposure was given than might normally have been allowed owing to the film being several years old, which I felt made it inadvisable to take chances on under-timing and even slight forcing of development in consequence. The negatives, by the way, proved technically excellent, following normal development.

All these photographs were made with a 2¼x3¼ Conley Jr. pocket camera fitted with a rapid rectilinear lens, the prints for reproduction being enlargements on bromide paper.

The Editor regrets that exigencies of make up prevented the inclusion of two pictures mentioned in this article, namely: "Forest Sentinel", and "Woodland Fog". The authors remarks regarding them are retained as being of interest in themselves.—Ed.

Cinema Section

Edited by

William A. Palmer

Surgical Movies

MOTION pictures of surgical operations, although they have been comparatively few, have proven very valuable. The ease with which the pictures may be taken with the proper equipment, and the fact that the use of the equipment in no way hinders the work of the surgeons, remove any

objections that might arise to offset their value. As a record of unique or important cases, the film is one of the best mediums. For years, people have been employed at high salaries for the sole purpose of drawing sketches of operations as they are performed. The sketches are perhaps the best way of showing hidden anatomical structures, but as a recorder of technique the motion picture is unexcelled.

The use of surgical movies for instructional purposes in medical schools has very great possibilities. It is almost impossible for more than one or two persons, beside the surgeon and his assistants, to see all the various steps of an operation. As a result, the student of medicine seldom has a chance to get acquainted thoroughly with the technique of the surgeon until he becomes an interne and assists in an operation. The use of moving pictures in addition to the personal attendance during an operation is a great improvement, for during the showing of the movies questions of technique can be discussed thoroughly as the projector is stopped to project single frames or reversed to repeat certain scenes. If the surgeon who performed the operation gives a lecture, as the film is shown, the instructional value becomes enormous. It is not even necessary that the surgeon be present, for the use of 16mm sound-on-film can bring his voice in synchrony with the picture.

When one considers the facts, it is surprising that the use of motion pictures in medicine is not more widespread at the present time. Perhaps there is the idea in the minds of members of the medical profession that surgical films are too difficult to make or that they entail too much inconvenience. Actually the production of a surgical movie can be accomplished with very little trouble and great satisfaction.

The Equipment to Use

The equipment necessary for filming in the operating room consists of a spring driven camera, a tripod with tilt and pan adjustments, a telephoto lens speed f.3.5 preferably 3 inch focal length for 16mm or 1½ inch for 8mm cameras, and an exposure meter. In most cases the one camera can be used to record all the important steps on a single 100 ft. roll of film. There is no need to run the camera continuously, for in practically every operation there is a great deal of purely routine procedure. If, however, 100 ft. is not sufficient to record all the steps, two cameras had better be used so that when one camera is empty the other can take up the work with no delay. A camera with 200 ft. capacity or the rapid changing magazine cameras would be especially fine.

The telephoto lens is a necessity, for the camera must be kept back from the sterile region and yet record a small field in order to show the most detail. The 3 inch lens (16mm) is the most useful. It will record a sufficiently narrow field at a working distance of 6 to 7 feet and can be obtained in the f3.5 speed. If the camera is equipped with a turret, so much the better. Scenes taken with the regular 1 inch lens can be interspersed with the detailed close-ups to orient them. The telephoto, however, must be in readiness to function at a moments notice and if the camera is not turret equipped it would be better to dispense with the wider angle shots.

Setting Up the Equipment

Some time before the patient is brought into the operating room, the camera should be set up in complete readiness. The camera should be placed on

its tripod at a good elevation, usually in the front row of spectator's gallery if the room is so equipped. A string is tied about the legs of the tripod, forming a triangle which will prevent the legs from spreading should the points slip on the tiled floor.

The telephoto lens is then focussed. If the camera is not equipped with a visual focussing device, the focussing scale of the lens is set at a definite reading, we'll say 7 feet, and a piece of gauze bandage tied to the camera or the top of the tripod somewhere. The strip of bandage is then drawn out in front of the camera to exactly 7 feet where a knot is tied. Having done this, the proper focus is assured, for when the patient is brought in, the operating table can be maneuvered so that the field of the operation will be exactly 7 feet from the camera as shown by the knot in the gauze. The use of the gauze bandage is a little more sanitary than an ordinary measuring tape but is not to be considered completely sterile. If the camera is equipped with the visual type focussing device, the focussing can be done after the patient is in place.

It is a good plan at this stage, before patient has been brought in, to check the alignment of the finder and make sure that the field shown by it will coincide with that of the taking lens at the distance to be used. Usually the finder masking for the telephoto lens has been adjusted for accuracy at great distances and there must be some compensation for parallax at distances closer than 15 feet. A safe way to make this check up is to lay an object on the operating table at the proper distance from the camera. Now with the camera empty and the spring unwound so that the shutter may be moved to an open position, the camera can be sighted so that the object is in the center of the field as shown by viewing the image on a piece of ground leader film placed in the aperture. With the camera locked in this position where one knows the object to be correctly centered, the object is viewed through the finder. If this does not also show the object in the exact center, a spot of ink can be placed on the finder glass which can then be used to center the action during the filming.

The camera can then be loaded with super pan film, the leader run off, and the footage meter set.

Lighting and Exposure

In practically every case, as long as super sensitive panchromatic film is used, the regular operating lights are sufficient. They are especially designed to give a brilliant light with a medium of shadow. These regular lights are overhead and it is therefore desirable to have one other portable spot lamp to give a little more front light. One of these spot lamps can be found in almost any operating room. If abdominal surgery is being photographed, the camera should be placed as high as possible and the operating table tipped toward the camera. The additional spot lamp is then very desirable to help illuminate the depths.

If lighting units are used, other than those found in the operating room as regular equipment, they should be of the spot light type, for it is desirable to concentrate as much light as possible on the center field of operation and keep it off the white drapes surrounding.

The exposure should be determined by the use of a good exposure meter, preferably of the photo-electric type. With the photo-electric meter the expo-

sure can be determined by the "brightest object" method by taking a reading on the white cover of the operating table before the entrance of the patient. If the reading is taken after the patient is in place, one must be careful to set the meter correctly to take into account that the many white drapes will indicate an exposure less than that required.

An alternative to the use of an exposure meter for determining correct exposure is an actual test. A foot or two can be exposed under the lighting conditions that will be used during the operation. The camera can then be taken to the X-ray laboratory of the hospital, the small length of film placed in the regular X-ray developer, and developed just like an X-ray film. The proper time for the strength and temperature can be obtained from the technician in charge. A piece of cine film properly exposed and developed in this manner will show a good strong negative. Normally an exposure on superpan film of about f 5.6, normal speed, is correct when regular operating lights are used.

Camera Manipulation During Operation

The manipulation of the camera during the operation should be comparatively simple. The photographer and the surgeon should go over the steps of the operation beforehand discussing the important phases. Signals should be decided upon so that the surgeon can let the photographer know when to start and stop the camera. For this perhaps there is nothing better than "Camera" to indicate a start and "Cut" to indicate a stop. The surgeon should be the one to decide when to photograph, for he is the only one who knows exactly what will take place and, having the camera on his mind, he will not have the tendency to get his hands, arms, or head in the view of the camera.

The photographer's duty, then, is to keep the field of operation centered in the finder and wind the spring after every scene so that every scene is started with a fully wound motor ready for an extra long scene. If two cameras are used so as to record more than the 100 feet of one roll, the cameraman has best have an assistant to get the other camera ready and to make the change as rapidly as possible. Of course, it would be best to have complete duplicate equipment, each camera with its own tripod and each set up ready to function at the second. A hand drive camera or better still an electric motored camera is very useful if there is to be any long continued scenes. A scene longer than the capacity of the spring motor should be very rare, however.

It would be well to mention that complete haemostasis should be obtained so that the tissues will show up as clearly as possible. Super pan film with mazda illumination will give perfect color correction but it is best to have a minimum of blood, for it records rather dark.

Surgical films when processed seldom need any editing aside from the elimination of bad scenes, but they should be profusely titled. Their main purpose is the transfer and demonstration of technique and many things should be pointed out by title. Here it is better to have a large number of short titles each calling attention to one point, rather than to have one long title calling attention to several points in the pictures to follow.

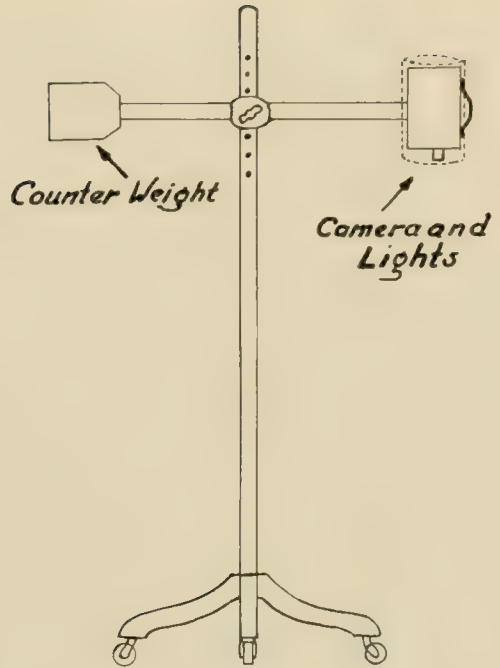


Fig. 1

Special Equipment

IN some types of surgical movies it would be necessary to have the camera placed directly over the operating table with the lens pointed straight down. If this is necessary, a special piece of apparatus can be constructed to support the camera and indicate the field included by the lens. Obviously, it is impossible for a photographer to be directly over the operating area, so some means must be devised to operate the camera by remote control. The following is a practical solution to the problem:

The camera is mounted on the extremity of the cross arm of a standard having rubber tired casters. This standard can be specially built of two inch pipe and fittings or can be the standard of a regular operating room spotlight. The cross arm is affixed to the upright by a large wing screw which will screw into holes drilled in the upright. This will prevent any possibility of the cross arm dropping if the wing screw is not tightened thoroughly. At the other extremity of the cross arm is placed a counter weight to balance the camera and the lights which are placed beside it. Figure 1 shows the general arrangement of parts. All details of construction are not given, for there will be a different problem with every standard that could be used.

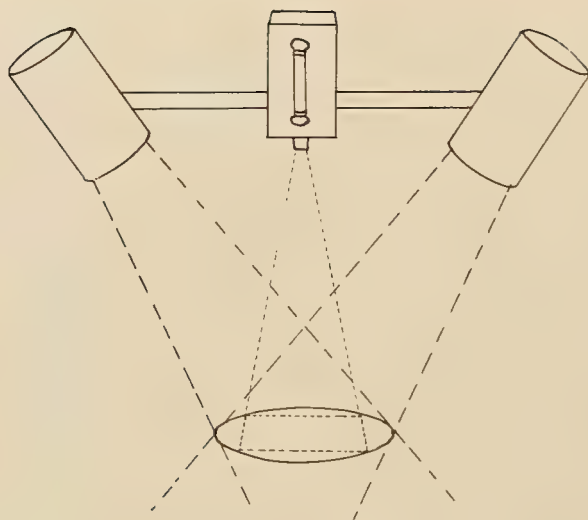


Fig. 2

Figure 2 shows the arrangement of camera and lights as they are placed on the extremity of the cross arm. The camera is mounted with the lens pointing straight downward and two "baby" spot lamps are placed about eighteen inches from either side of the camera. These spot lamps are the type used in show window illumination and stage lighting and can be purchased complete with their 250 watt globes for a very reasonable sum.

The lens of the camera is focussed at a distance selected arbitrarily, say 2 feet, and then the spot lights are focussed (moving the lamp back and forth in the spot light will make the spot larger or smaller,) so that the two circles of light will coincide at the distance for which the camera is focussed. The position of the coinciding spots is made to represent the camera field by carefully checking with the finder and other viewing devices, the most reliable of which is the viewing of the image formed by the camera lens upon frosted film which is placed in the gate.

It can be seen readily that, once the camera and lights are adjusted as shown in Figure 2, the camera may be operated without reference to the finder or focus, for when the apparatus is placed so that the two circles of light overlap each other as they fall upon an object, the camera will be in perfect focus and the center of the lighted area will be the center of the camera field.

In operation, then, the equipment is rolled over the operating table, adjusted for height so that the spots of light coincide, and the placement is correct. The camera mechanism is operated by one of the "remote control" devices which are made by camera manufacturers. When it becomes necessary to wind the spring, the standard is merely wheeled to one side and the winding done by an assistant. With this device it is possible to place the "remote control" device so that it may be operated by the foot of the surgeon, thus enabling him to photograph any step by merely pressing a button.



"A Real American"

James Emmett, Jr.

Advanced Medal Print

■ We are wondering if others will feel as we do, the artistic and intellectual similarity between Mr. Emmett's fine portrait and Grant Wood's great painting "American Gothic". There is little physical resemblance for the painting contains two figures and considerable background material, nor do we mean to imply that one derives from the other, but the idea, the artists' objectives are the same in each and each is a splendid thing in its respective medium. We see in this picture an illuminating example of the function of the artist. The representation, the emphasis, the revelation of the universal through the particular. With this particular individual as basic material Mr. Emmett reveals the significant qualities that go to make up a distinct American type. To the extent in which he is successful in doing that his picture becomes Art. He accomplishes his artistic purpose above all by **seeing**, understanding and appreciating the significant qualities of his subject, and by being able to vividly visualize

(Continued on Page 305)



"Union Square Poet"

Axel Bahnsen

not mean that the greasing is not a legitimate subterfuge, and one which is in keeping with the theme of the picture. But pictorial devices, in order to be entirely successful, must achieve their purpose without revealing their presence. The dimly seen diagonal lines in the background at the lower right constitute a further minor defect since they have no connection with the picture proper.

Data: Negative on $3\frac{1}{4} \times 4\frac{1}{4}$ " S.S. Pan., in D-76; print on E.K. Opal A.

Third Award Advanced Class

■ The attractive qualities of this picture lie in the charming simplicity of line and mass, and in the clever repetition of the motif of the dark and light boat by the light and dark figures. A simple little story told with a disarming simplicity. We take a secret delight in pointing out instances in which the so-called "rules" of composition do not hold good, not because we have anything against the "rules" but because we believe that a certain percentage of photographers have formed the habit of applying these "rules" much too literally; forgetting that rules are but the expression of a general tendency and that their application constitutes a new problem with each new picture. In this case we run into a favorite "rule" of those who compose by rote. Namely: that lines should not run out of the picture because they carry the eye with them. Of the four lines which cut the edges of this print two will almost universally be considered as running into the print, because they start at



"Tete a Tete"

Russell King

(Continued on Page 306)

**Fourth Award
Advanced Class**

■ Mr. Phillips chooses to emphasize the gloomy, mysterious atmosphere of this uninviting alley. The placing of the figure and the spacing of lights and darks are well managed, and the trickle of water adds to the effect desired and also serves to break up what would otherwise be a monotonous foreground. The predominance of deep shadow and the broad treatment are essential to the preservation of the mood, for a wealth of detail would quickly dissipate the sense of mystery that is now so well maintained. This illustrates a point often made by commentators, but occasionally overlooked by enthusiastic partisans of the various photographic schools. Namely, that the technique, the photographic treatment of the material, is largely determined by the story the photographer wishes to tell. If Mr. Phillips had worked to record a maximum of detail and texture in the spirit of "Pure" photography, he might have finished with a fine picture but it would have been utterly different in meaning and mood to the one we see here. It should be evident to even the most prejudiced observer that the telling of this story demands a breadth of treatment that suppresses detail, in favor of mystery and suggestion, and that this can be most satisfactorily obtained by resort to one of the controlled printing methods; in this case Bromoil Transfer. No Data.



"Limehouse Louie"

Geo. H. Phillips



"The Breakers"

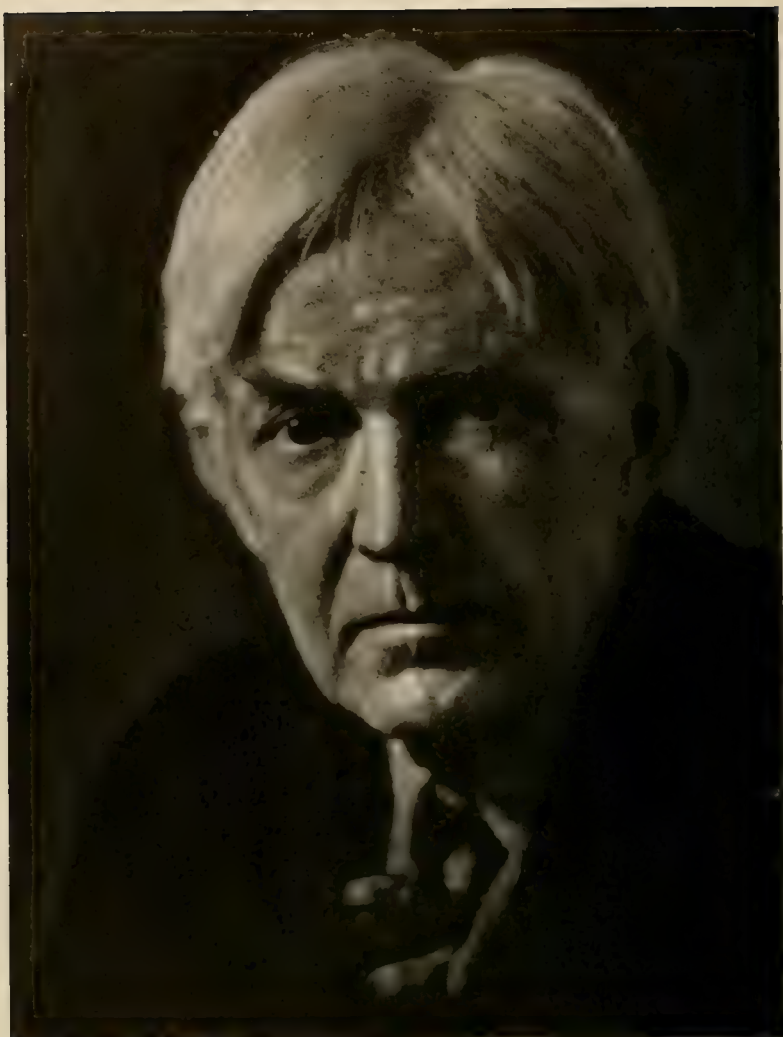
E. W. Blew

10x12 inch print from the top and we would also advise a similar trimming from the left side, for this re-establishes desirable print proportions and the two trimmings together result in a more concentrated picture that is free of the first mentioned defect. Further we cannot see that the trimming eliminates any desirable feature of the present print. A black border would also help in making the picture more self-contained.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Graflex; 1/160 sec. at F:8, at 4 P.M. in April; S.S. Pan. film; print on E.K. P.M.C. #11, contrast.

**Fifth Award
Advanced Class**

■ "The Breakers" contains a splendid rendition of smooth rhythmic wave movement, contrasted with the chaotic turbulence of the broken wave, and a fine rendition of water quality throughout. All of which produces an exciting and interesting picture. We feel however that there is a very noticeable falling off in strength at the upper edge of the print, which causes the eye to flop out of the picture as it moves into the upper part of the print along the pathway of water. For that reason it seems necessary to trim about $1\frac{1}{2}$ inches on the



"An Unbroken Spirit"

Amateur Medal Print

O. W. Fisher

■ We seem to have rather a super-abundance of portraits in this month's awards, but this is not without its compensations for it affords interesting opportunities for the comparison of similar subject matter. Mr. Fischer offers a strong and finely executed portrait, but notice that his objective in making this picture is entirely different from that of the two portraits in the advanced class. Mr. Fischer is primarily concerned with bringing out the characteristics of his subject as an **individual**, he is disclosing a specific personality. The man effort in the other two pictures has been directed toward using a specific subject to reveal the essential qualities of a type, to show the kind of individual that is peculiar to a certain environment. It is of the utmost importance that the artist should have a crystal clear idea of what he is trying to bring out in a given picture. It seems plain that these three men had that understanding, so a study of these three prints should help the student to a realization of the various approaches to portraiture. In the present print there is some unnecessary complication of light and dark in the area of the necktie, and it would be well to simplify this by eliminating the two light spots that lead off to the left.

Data: 19 inch Bausch and Lomb Portrait; 1 sec. at F:5.6 by one 500W lamp with reflector, on Defender XF Pan., in Metol-Kodak; paper negative on Defender Veltex; and final print on E.K. Opal D, in M.Q.

**Second Award
Amateur Class**

■ The number of pictures which have been made of ships masts and rigging must be legion, but few have held together more neatly or been more truly interesting than this one. The mass of the life boats provide a solid foundation on which to build the composition, and these in conjunction with the dark-toned rigging in the upper corners, are valuable in establishing the third dimension, for these dark tones in the foreground definitely place the brilliantly lighted mast on a distant plane. One of our judges and another prominent critic for whose opinion we have great respect felt that the two triangular shaped objects supporting the life boat at the right, at the base of the print, had a tendency to catch the eye, and therefore should be slightly toned down in the print. For our part these spots are not strong enough to bother in this respect, for our eye moves easily between the two boats and on into the picture, but nothing is lost by toning down these two small areas, especially the one on the left, so it would seem advisable to do so.

Data: Contax; 28 mm. Zeiss Tessar; 1/25th sec. at F:9 with K1 filter, on E.K. Panatomic, in DK-76 with bromide; Dassonville Charcoal Black E, in M.Q.



"Life Boats"

B. R. Hart



"Gypsy Grandmother"

A. Brodu

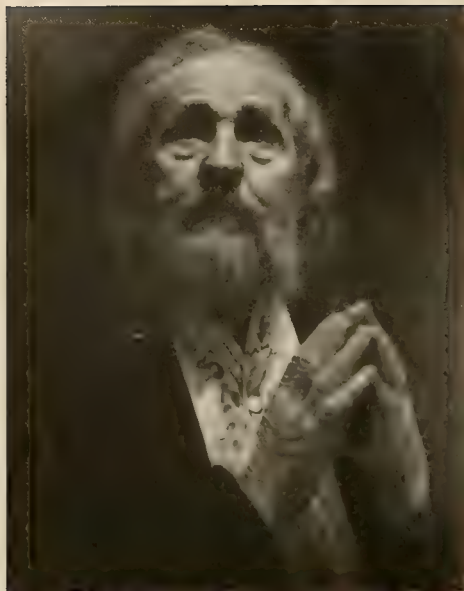
there is therefore a certain ambiguity to this picture that results in a dilution of its pictorial strength, because clarity and directness of statement are prime pictorial requisites.

Data: 1/10th sec. at F:5.6 on Portrait Pan., in DK-76; E.K. Vitava Opal Q, in D-72.

**Third Award
Amateur Class**

■ "Gypsy Grandmother" is technically a nice piece of work with good modeling and well rendered flesh tones. To our eye the head appears to be a trifle too far to the right in the picture space, for when the eyes are looking directly to the front it is usually advisable to center the head. To correct this it seems best to remove a little from the right and to add enough to the left of the print to achieve the desired balance.

To continue our comparison of the portraits in this group from the standpoint of the makers intentions as reflected in the prints, it would seem from the costuming and the title that Mr. Brodu had some idea of suggesting a general type of character but we cannot see that such an idea has been strongly carried out, for the picture also contains elements that suggest emphasis on the individual character, the approach adopted by Mr. Fischer. We believe it will be evident to the reader that



"David de Guelph"
Morgan W. Wickersham

area in the lower left being devoid of detail.

Data: Leica; DuPont Pan. in Paraphenyline-Diamine; illumination by Photofloods (number not given); Defender paper, in Amidol.

■ To continue our comparison of portraits, we find that Mr. Wickersham has adopted an approach similar to that found in the two portraits in the Advanced Class. He is striving to bring out the qualities of the deeply religious character, and we believe that this pose, expression, and lighting, are well chosen with respect to his purpose. Because the intention is clear in this case and because the subject matter is a bit more interesting we feel that this picture is stronger pictorially than "Gypsy Grandmother", but it is placed below the other print because of technical shortcomings. The print lacks that rich juicy quality that marks the well made photograph. There is a falling off in value in the lower right corner. The definition of the hands is not quite what it should be, considering their importance in the picture. The figure does not stand out from the background sufficiently, the shoulder at the left of the print being entirely lost, and the whole

Fifth Award Amateur Class

■ If there are those who attribute their lack of good results to inadequate camera equipment, they should note that the present picture with its fine technical qualities is the product of a Box Brownie. Mr. Brubaker presents an interesting aspect of a rather peculiar piece of architecture, and he has carefully selected just the right time of day to make the exposure so that he gets a nice sense of roundness in the tower, strong shadows in the windows which constitute the major interest, and the shadow in the lower right-breaks up what would be a barren area under a different lighting. We desire the eye to follow upward along the stairway of windows, and do not want it to wander into the distance between the tree and the tower. Therefore it would be well to subdue the highlight which pops up in the background at the lower left.

Data: 2A Brownie; approx. 1/25 sec. at F:16, on E.K. Verichrome, in French Universal Developer; E.K. P.M.C. #11, in Amidol.



"Stairway Windows"
Lester H. Brubaker

Monthly Competition

Contributing Clubs

Artisans Camera Guild (Los Angeles, Cal.)	Hamilton (Canada) Camera Club
Baltimore Camera Club	Japanese Camera Club (San Francisco, Calif.)
Bellingham (Wash.) Camera Club	Los Angeles Camera Club
Boulder (Colo.) Lens Club	Montreal Camera Club
California Camera Club	Norfolk (Va.) Photographic Club
Camera Associates of Huntington (W.Va.)	Pictorial Photographers of America
Camera Club of Ottawa	Photographic Society of San Francisco
Camera Club of Richmond (Va.)	San Jose (Calif.) Camera Club
Cleveland Photographic Society	Schenectady Photographic Society
East Bay Camera Club (Oakland, Calif.)	Telephone Camera Club of Manhattan
Erie (Pa.) Camera Club	Toronto Camera Club
Fort Dearborn Camera Club	Washington (D.C.) Pictorialists
Golden Gate Miniature Camera Club (San Francisco, Calif.)	

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class: James Emmett, Jr., for the Fort Dearborn Camera Club; George H. Phillips and E. W. Blew, for the Los Angeles Camera Club; and Russell King, for the Montreal Camera Club.

The following won points for their clubs in the Amateur Class: B. R. Hart, for the Golden Gate Miniature Camera Club; A. Brodu, for the Photographic Society of San Francisco; Lester H. Brubaker, for the San Jose Camera Club; and Morgan W. Wickersham, for the Washington Pictorialists.

Standing of Clubs

Large Clubs Advanced Class		Large Clubs Amateur Class	
Los Angeles Camera Club	17	Photographic Society of San Francisco	28
Camera Club of Ottawa	14	California Camera Club	7
Fort Dearborn Camera Club	13	Golden Gate Miniature Camera Club..	4
Pictorial Photographers of America ..	9	Schenectady Photographic Society ...	4
Montreal Camera Club	8	Los Angeles Camera Club	3
Photographic Society of San Francisco	7	Camera Club of Ottawa	1
Miniature Camera Club of New York .	3		
American Society of Cinematographers	1		
Small Clubs Advanced Class		Small Clubs Amateur Class	
Erie Camera Club	5	Hamilton Camera Club	11
Monterey Peninsula Camera Club	4	Washington Pictorialists	11
Baltimore Camera Club	2	San Jose Camera Club	3
Japanese Camera Club	2	Monterey Peninsula Camera Club	2
East Bay Camera Club	1		

(Continued from Page 299)

and realize these qualities in graphic form, and secondly by having sufficient command of his medium so that he may use his camera to capture what his imagination and understanding have created. Mr. Emmett displays an unusual degree of sensitivity to his subject, and has the skill to convey his personal interpretation of the essence of this character to the observer with strength and clarity. The strong lighting which is so in keeping with the weather beaten face, the fine use of the hands, and the shovel handle, the low viewpoint, and the fine expression are all items which contribute to the success of the picture. The point we wish to emphasize however, is that all these things and much else derive from the fact that Mr. Emmett understood his subject, knew what he was after, had an idea to work with. This constitutes by far the most important aspect of picture making, but unfortunately, because its mastery requires patient study, it is an aspect too often neglected by photographers who are more interested in quantity than quality.

Data: 4x5" Graflex; 1/75 sec. at F:4.5, on E.K. Portrait Pan. in A.B.C. Pyro; Agfa Bromira Royal, in M.Q., Sulphide toned.

An explanation of the function and rules of these competitions will be sent free on request, or they may be found on Page 600 of the December issue.—Ed.

The fact that your name is included in the lists below acknowledges receipt of your prints and signifies that they were included in the judging.—Ed.

Amateur Competitors

- V. Aiyar, Calcutta, India
 Gustav Anderson, Amityville, N.Y.
 Ralph H. Anderson, Yosemite National Park, Calif.
 Dr. H. C. Atwood, Riverside, Calif.
 G. D. Aydlett, Norfolk, Va.
 F. M. Beckett, San Jose, Calif.
 D. M. Bender, Milwaukee, Wisc.
 Fred Blume, Jr., Rosell, N.J.
 *A. Brodu, Oakland, Calif.
 *Lester H. Brubaker, San Jose, Calif.
 Robert N. Bushman, Schenectady, N.Y.
 Thomas B. Casey, Providence, R.I.
 Margaret B. Clarke, San Francisco, Calif.
 S. B. Clason, Langley Field, Va.
 Raymond B. Collier, San Francisco, Calif.
 Carl Cramer, Cincinnati, Ohio
 J. C. Crosby, Schenectady, N.Y.
 Dr. James A. Cutting, Agnew, Calif.
 Harold W. Daeschner, Boulder, Colo.
 Glenn A. Davis, Las Vegas, Nev.
 Leonard Davis, Hamilton, Canada
 A. B. De La Vergne, Denver, Colo.
 H. W. Douthwaite, Montreal, Canada
 James R. Evans, Ocean Beach, Calif.
 Edward D. Fernz, Bronx, N.Y.
 *O. W. Fischer, Denver, Colo.
 John Fowsky, Bronx, N.Y.
 Mortimer Friedman, New York, N.Y.
 C. N. Fuller, Los Angeles, Calif.
 J. William Guiselman, St. Petersburg, Fla.
 Haden Hakins, Richmond, Va.
 *B. R. Hart, San Francisco, Calif.
 Johanna E. Heim, San Francisco, Calif.
 Ralph P. Hotis, Washington, D.C.
 J. W. Hubbard, Shafter, Calif.
 J. A. Hultquist, Washington, D.C.
 Delbert E. Jack, Berkeley, Calif.
 L. S. James, Boulder, Colo.
 Thelma R. Kent, Christchurch, N.Z.
 Howard Kurz, Los Angeles, Calif.
 Samuel V. Lebowitz, Baltimore, Md.
 Charles Lord, Regina, Canada
 Louis Luh, Washington, D.C.
 Elizabeth M. Mackintosh, Linthicum Heights, Md.
 M. Moskowitz, New York, N.Y.
 Carl Huntress Moulton, Baltimore, Md.
 Charles E. Ng, San Francisco, Calif.
 Don Kirby Oliver, San Francisco, Calif.
 R. W. Olsen, Schenectady, N.Y.
 Miss Mary A. O'Toole, Pottsville, Pa.
 A. W. Prasse, St. Louis, Mo.
 Frank X. Reilly, Pottsville, Pa.
 Lee Robey, Washington, D.C.
 F. L. Rogers, San Francisco, Calif.
 Cadet Earl R. Russell, Tacoma, Wash.
 D. L. Sandretto, Joliet, Ill.
 Lawrence Schreiber, Cleveland, Ohio
 H. F. Schwedes, Dundalk, Md.
 L. H. Shaw, Schenectady, N.Y.
 Dr. Will G. Sheffer, San Jose, Calif.
 H. E. Sheffield, Cleveland, Ohio
 John G. Shortridge, San Francisco, Calif.
 Guy Simon, Shelby, Ohio
 Glen E. Sipe, Bellingham, Wash.
 J. P. Skillen, Hamilton, Canada
 Eugene Smith, Wichita, Kans.
 L. Charles Smith, Washington, D.C.
 Norman P. Smith, Toronto, Canada
 Carl H. Steenstrup, Schenectady, N.Y.
 L. B. Sutherland, Boulder, Colo.
 Henry K. Tanaka, San Francisco, Calif.
 Walter L. Tetman, Huntington, W. Va.
 Paul F. Turnure, Boulder, Colo.
 H. T. Tweedie, Dayton, Ohio
 E. Villalta, San Francisco, Calif.
 C. Ward, St. Joseph, Mo.
 Freda Ward, St. Joseph, Mo.
 J. I. Waters, Langley Field, Va.
 Edgar W. Weinberger, Brooklyn, N.Y.
 H. E. West, Washington, D.C.
 *Morgan W. Wickersham, Washington, D.C.
 Lewis N. Willman, Washington, D.C.
 Charles Willy, East Patchogue, N.Y.
 G. T. Yang, Peiping, China
 *Denotes prize winners.

Advanced Competitors

- Edward Alenius, Jamaica, N.Y.
 Arthur Arling, Venice, Calif.
 F. G. Ashton, Ottawa, Canada
 Edward Balford, Baltimore, Md.
 *Axel Bahnsen, Yellow Springs, Ohio
 C. C. Benedict, Berkeley, Calif.
 Edna R. Bennett, Hollywood, Calif.
 *E. W. Blew, Whittier, Calif.
 J. Campbell, Montreal, Canada
 Philip J. Croft, Montreal, Canada
 Newton Wright Crowder, Baltimore, Md.
 Fred E. Crum, Spring Valley, N.Y.
 Evelyn Curtis, Oakland, Calif.
 M. K. Curtis, Oakland, Calif.
 Fred M. Doudna, Washington, D.C.
 *James Emmett, Hinsdale, Ill.
 Christine B. Fletcher, San Francisco, Calif.
 W. P. Grayston, Montreal, Canada
 Samuel Grierson, Brooklyn, N.Y.
 Lionel Heymann, Chicago, Ill.
 N. S. Horton, Montreal, Canada
 Stanley R. Jordan, San Francisco, Calif.
 H. F. Kells, Ottawa, Canada
 *Russell King, Montreal, Canada
 Kichiji Kojimoto, San Francisco, Calif.
 L. H. Longwell, Chicago, Ill.
 William T. Lyon, Chicago, Ill.
 Paul W. Macfarlane, Claremont, Calif.
 W. E. Mackintosh, Linthicum Heights, Md.
 John C. Moddejonge, Cleveland, Ohio
 John Muller, New York, N.Y.
 *George H. Phillips, Los Angeles, Calif.
 M. Arthur Robinson, Honolulu, T.H.
 Fred H. Rothstein, Bayside, N.Y.
 R. Owen Shrader, Pasadena, Calif.
 Dr. Max Thorek, Chicago, Ill.
 Claude J. Williams, Los Angeles, Calif.
 William O. Yates, Erie, Pa.
 *Denotes prize winners.

(Continued from Page 300)

the bottom and move upward, and this is correct. Although it may seem like an exaggeration we are confident that there are those who would maintain that the other two lines have a tendency to lead the eye out of the print. This seems impossible to us because any directional force which these lines have is checked in one case by the boats, in the other by the figures, and the strong concentration of interest is certainly sufficient to easily hold the eye where it belongs. Elementary work with the retouching pencil would easily remove the unnecessary black spot in the upper right.

Data: 4.5x6 cm. Zeiss Bebe; Zeiss Tessar F:3.5; 1/50 sec. at F:5.6, on Agfa Plenachrome, 8:30 P.M. in June; print on E.K. Opal H.

Correspondence

A Question on Ethics

Sir:

I would hear your readers express themselves anent this thesis:

It is (or is not) ethical to submit to a salon (amateur or otherwise) a print which has had benefit of open criticism in a print clinic, or in a club meeting, or which has received comment from advanced workers.

To start the argument I think it is unethical because prints sent to exhibitions are — presumably — the exhibitor's own work; and when a print has passed through a clinic or other critical discussion and an improved print is made thereafter, this later print is really the work of a group.

Of course we exclude from argument the limiting cases in which (1) the print is genuinely too good to be improved, and (2) the owner is too stubborn (or lazy) to alter his print.

M.H.S.

Healthy Criticism

Dear Mr. Young:

May I correct the misunderstanding of a couple of correspondents in your May issue?

From the tone of their letters I should judge they are both very young for they obviously resent being told anything. Art critics are not interested in telling photographers what they should do, only pictorialists, and then from an art standpoint only.

The statement that the picture of the Sierras was true to nature was quite likely, but mere representation is not art, which was what I was talking about, also differing in opinion is not quarreling. Normal people don't quarrel just because they don't think alike.

The object of criticism is to stimulate better work, not to condemn. If workers would take it in that spirit instead of getting sore about it, their own work would improve. Pictorial Photography is too worth while a hobby to be allowed to stagnate for want of a little healthy

criticism.

While I don't agree with the F:64 ideas on art, I strongly recommend their system to improve technique, a very necessary thing for all photographers.

Would also like to commend Mr. McCune's picture "When the North Wind Blows". With one-half inch taken from top and bottom and properly printed, it would have been worthy of first place. Also agree that white paper would be better for this subject.

Mr. Kells' picture is very clever and well composed but there is such a tangle of lines that it is a little bit complicated, I feel.

Sincerely yours,

G. H. S. Harding.

About Criticism

Dear Sir:

There are two aspects of Mr. Conklin's letter which appeared in the May **Camera Craft** with which I am largely in agreement. Insofar as he argues for a greater spirit of tolerance among photographers, and deprecates a tendency among "Pictorialists" to look with ill concealed contempt upon the work of beginners or those whose purpose is the making of records rather than "pictorial" photographs, he draws my wholehearted approval. Tolerance is always a virtue, the beginner needs reasonable encouragement, and records as well as many other kinds of photographs are indispensable to our civilization and should be respected for their usefulness.

However it seems to me that he overstates his case and goes on to at least imply that all photographic criticism is bad and should be done away with. In my own view it is next to impossible to exaggerate the value of intelligent criticism. Any approach to perfection, even any real progress, except in the case of extremely rare individuals, cannot be achieved without it. Further it should be noted that the less a field of endeavor is subject to exact measurement the more it is in need of criticism, for criticism then becomes the only means of evaluation. It

is hardly necessary to point out that the Arts are entirely devoid of any means of exact measurement, and therefore in the greatest need of criticism.

Admittedly much photographic criticism is shallow, dogmatic, and prejudiced. Ridicule such criticism at every opportunity, not because it is criticism, but because it is false and incompetent.

Sincerely,
R.L.P.

Correction

Dear Mr. Young:

By inadvertance I referred, in last month's article, to "Factor's #22 pan-

chromatic rouge". There is no rouge so numbered in his list. What I meant was "Factor's #22 panchromatic lining colour". This is a colour somewhat similar to the panchromatic rouges, but containing less red. To any that may have been inconvenienced by this error, I make my apologies.

By a strange freak, "Rachelle powder" appears as "rochelle powder". I trust that none have suffered untoward results from the use of "rochelle powder", which is recommended only as an internal remedy for the pale and peevish.

Very truly yours,
William Mortensen.

Notes and Comments

Owl Drug Company Announces Contest

Beginning June 1, 1935 the Owl Drug Company, with headquarters at 637 Mission St., San Francisco, Calif., will conduct a photographic contest open to all amateur photographers, the only requirement being that the finishing of the pictures be carried out by that company. Each month from June to September there will be three awards made for the best child photograph submitted during the month. First prize will be \$15.00, second \$7.50, third \$2.50. The above prizes are in addition to the awards which will be made at the close of the contest on Sept. 15, 1935. At that time a total of over \$600.00 in prizes will be given as follows. First prize \$100.00, second, \$40.00, third \$20.00, four prizes of \$5.00, and 20 prizes of \$1.00. These awards will be duplicated in three distinct classes of pictures. Class A—pictures of children; class B—landscapes, marines or other outdoor subjects in which the scene is the principle element of the picture; class C—miscellaneous, action shots or any type of picture which does not fit into the other two classes. Prints may be submitted to any of the Owl Drug Company's stores throughout the Pacific Coast, or mailed direct to the home office the address of which is given above. Judges of the contest are announced as follows: Mr. Alfred W. Pye, Manager of the San Francisco branch of the Eastman

Kodak Company, Mr. A. S. Hofmeister, Manager of the San Francisco branch of the Agfa Ansco Corp., and Mr. George Allen Young, Editor of **Camera Craft**.

Edward Weston Print-of-the-Month-Club

Above is the title of an idea new to photography but common in the field of literature. It works as follows: each month for twelve months Mr. Weston will send to those subscribing to this plan one of his latest prints, the print which has been selected as Print-of-the-Month. Subscribers will be limited to thirty-five, and this is all of the prints which will be made from these negatives with the exception of five which Mr. Weston reserves for his own use. Weston prints have continually cost from \$15.00 to \$20.00 and will still sell at that price to all except subscribers to this plan. EWPOMC prints will cost only \$5.00. It offers an unusual opportunity to obtain an outstanding collection of the work of one of the truly great photographers of our time, and the fact that only a limited number of prints are made from these negatives insures that your pictures will have a permanent and increasing value. There are four plans under which a subscription may be taken out, and we have not the space to discuss them here. Anyone interested should write to Mr. Edward Weston, Carmel-by-the-Sea, Calif., without delay for the subscription list will soon be filled.

Nicolas Haz Summer Courses

Nicolas Haz is offering a series of ten summer courses each course lasting a week, and consisting of five excursions with the camera and five lectures on composition and other relevant subjects. The cost per course \$15.00. The courses will be given in the lovely artists colony of Woodstock, Ulster Co., N. Y., and those desiring detailed information should write to Mr. Haz, at that address. In the last few years Mr. Haz has established an enviable reputation as an instructor and lecturer or both the artistic and technical aspects of photography. He lectures at the New York Institute of Photography, and was recently one of the principle lecturers at the Pittsburgh Convention of the Photographic Society of America.

Shull Accessories

Two new additions have been made to the Shull line of accessories:—a Swivel Arm for the Contax enlarger and a Magnifier.

The Swivel Arm for the Contax enlarger is of the same design and does the same type of work as the Shull Swivel Arm for Leica, which immediately jumped into favor when placed on the market the first of the year.

The Swivel Arm is of great value to professional and amateur alike as it increases the enlarging range and usefulness of the enlarger and, if desired, converts the enlarger into a horizontal projector.

The new Magnifier is an 8x magnifier with lens adjustable for focusing. It is designed to fit SPEED-O-COPY, Lens Tester or the Leica Slide, in the use of which it not only assists in making a critical focus but excludes light from the ground glass while focusing.

D. Paul Shull, 240 South Union Avenue, Los Angeles, is the manufacturer of the Shull accessories which include the SPEED-O-COPY, a distinctive ground-glass focusing attachment for Leica and Contax.

16 MM Sound

"SIXTEEN MILLIAMETER SOUND ON FILM RECORDING" is the title of a booklet put out by the Berndt-Maurer

Corporation of New York. In it the mechanics of recording and reproducing sound on film are explained with the aid of diagrams. The booklet will be sent free of charge to any advanced amateur who is interested in the how and why of sound on film recording. Address: The Berndt-Maurer Corp., 112 East 73rd St., New York.

U.C. Extension Announces Summer Field Course

Summer Field Trip Courses to be conducted by the well known Mr. P. Douglas Anderson, A.R.P.S., are to start on the following dates. In San Francisco, at 540 Powell St., on Thursday, June 6th at 7 P. M. in Oakland, Calif., at 1730 Franklin St., at 7 P. M., Friday, June 7. Courses will consist of five evening lectures and demonstrations plus five Sunday Field Trips. This type of course offers the finest kind of practical instruction for the serious amateur, and have proved most popular in the past. For full information inquire at the above addresses.

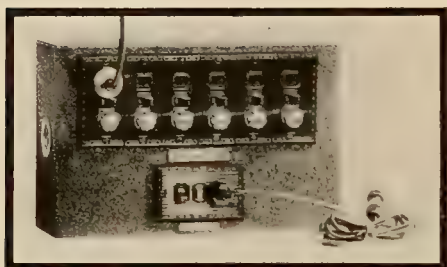
Frame Your Snapshots

Pacific Supply Co., 401 C Phelan Bldg., San Francisco, Calif., are offering a very attractive leather and silk frame for contact prints in all the popular sizes. If you are presenting a print of yours to a friend it is bound to make a much greater impression and be preserved much longer in one of these good-looking frames. The frames are of the folding type (like a book) so that they will stand on desk, piano, or bureau without other support. The frames are regularly priced at \$.50 each, but a special offer made through **Camera Craft** makes them available at \$.25 each or five for a dollar. Take advantage of this reduced price for it will not last long.

Kalart Multiflash Synchronizer

Photographers who have attempted to fire a number of photoflash bulbs when the majority of them are ignited by contact radiation from one or more bulbs actually connected to current, know that there is an appreciable lag between the firing of the current ignited bulbs, and those fired by contact radiation. Mr. Schwartz of the Kalart organization in-

forms us that this lag may be as high as a full second and it is obvious that much movement may be introduced into a picture under such conditions. The Kalart Multiflash Synchronizer will fire as many as 96 Photoflash lamps in perfect synchronization, and all the photographer need do is release the shutter as he would



be firing a single bulb. The instrument is illustrated above, and it has been found most useful in photographing large set ups and especially in color photography where great numbers of photoflash bulbs are required for a single shot. See this new instrument at your dealers or write to the Kalart Company, 58 Warren St., New York, N. Y., for full information.

Prominent Light Mfg. Firm Changes Name

Photographic Specialties, Inc. is the new name for Photolites, Inc. of 110 West 40th Street, New York, a company which has, in the last year, established an international reputation in the field of lighting equipment. They are the manufacturers of the Photo-Flood Spot, a unique illuminating device which may be focused to any desired radius or intensity. The "Spot" feature of this device may be used interchangeably with a focusing Reflector. The decision to assume this name was motivated by plans which contemplate the manufacture of additional photographic specialties of a type that the name Photolites would not suggest.

New York Photo Shop Open at Night

There is a considerable portion of New York City which wakes up at 3 or 4 in the afternoon; has lunch at 8 or 9; and calls it a "day" at three in the morning. For such the night life photo shop operated at Broadway and 42nd Street is a considerable convenience since this store

remains open until 10 p.m. Operated by Davega, this shop is fully equipped for all amateur photographers' needs including films, papers, chemicals, cameras, movie apparatus, and a full supply of magazines, including **Camera Craft**

The Paragon—New Low Priced Movie Camera

Burke & James, 223 W. Madison St., Chicago, Ill., announce a new 16 mm. movie camera known as the Paragon, which has a number of attractive features. Outstanding among these is the low price of the instrument it costing only \$42.50 with 1 inch F:3.5 Wollensak Velostigmat, or \$54.50 with 1 inch F:1.5 Luxor Anastigmat lens. The camera will operate at three speeds, 8, 16, and 48 frames per second, which means that the operator can make his scenes in fast, normal or slow motion as he desires. A telescopic view finder is built into the camera, an exposure table is mounted on the front of the camera, and the spring motor will run from 18 to 22 feet of film without rewinding. An accurate footage meter is also part of the machine. This should be enough to give an idea of the value offered. Write to the above address for a descriptive circular that describes the camera in full detail. We might add that the camera is perfectly capable of making color movies in either of the two new processes, Kodachrome or Dufaycolor.

The Derby Enlarger

The DERBY ENLARGER has been very popular for some years and is admitted to be one of the best values, in a miniature enlarger, on the market.

It is now available with several added and very important features. Of particular importance is the fact that its enlarging power is limited only by the quality of the negative, up to a maximum of more than 40 diameters.

This enlarger comes complete with double condensers and a glass negative holder, as well as a most unique sliding combination mask, which gives four different popular sizes in one mask and eliminates the use of glass.

Price complete with f.3.5 lens, double condenser, bulb, glass negative mask and combination mask—\$30.00. Write to Bur-

leigh Brooks, 127 West 42nd St., New York, N.Y., for new circulars on this and other new accessories.

Willo Miniature Printer

The Willo Miniature Printer appears to fill a distinct need for a popular priced contact printing instrument identical with larger professional printers in performance but adapted to fit the needs of miniature camera users. It comes equipped with adjustable masks which cover the four sides of any negative $2\frac{1}{4} \times 3\frac{1}{4}$ inches or smaller, including the Contax, Leica, Memo, Retina, Vollenda and others of similar type. Negatives may be used either in strips or cut into individual exposures and held securely under the masks while the paper is put in place. The cost is but \$9.00 and a line to Willoughby's, 110 West 32nd St., New York, N.Y., will bring full information.

Bausch & Lomb Lenses

The Bausch & Lomb Optical Company, 114 Smith St., Rochester, N. Y., make a great many different kinds of lenses. Realizing the confusion of amateur and not a few professional photographers when confronted with the task of selecting a lens, the company has prepared a most interesting booklet, entitled "What Lens Shall I Buy" which is specifically written to assist you in selecting the lens best suited to your needs. Write to the above address for your copy of this valuable booklet immediately for it gives a great deal of useful information. And while you are writing ask also for the pamphlet entitled "One Lens Investment That Fills Many Needs". This describes and illustrates the major uses of the Convertible Protar Sets. No commercial photographer would think of doing business without such lens equipment for these sets make it possible for the photographer to meet all sorts of picture making problems with a minimum of equipment. Many amateurs are not familiar with the advantages to be derived from convertible lenses, and if you are one of those the above mentioned pamphlet will do much to explain this important type of lens.

New Perplex Developing Tank

The Perplex Developing Tank for roll film embodies a new feature that will

prove most useful to Photo Finishers doing a small volume of fine grain developing or to the amateur who develops film of more than one size. The film carrying reel is adjustable so that it can be used to develop films of 127, 120, 116 or 35 mm. size. Write to the Mimosa American Corp. 485 Fifth Ave., New York, N. Y., for full information or see the new tank at your dealers.

Super Plenachrome Film Pack

The new Super Plenachrome Film Packs just being placed on the market have five important features that will be of great interest to photographers. They are, greater speed, greater latitude, improved color sensitivity protection against scratching, and improved anti-halation qualities. In speed the new film is rated at 26° Scheiner (Weston 32) to daylight, and Weston 20 to Mazda light. This is about twice as fast as Plenachrome and is truly a remarkable speed for an orthochromatic film. The latitude is very great and the company displays prints from negatives 35 times under-exposed and 35 times over-exposed that are very close to results obtained with a normal exposure. Color sensitivity has been increased appreciably in the green and yellow but the film may still be developed by a red safe-light suitable for orthochromatic film. Compared with Plenachrome the new film is 16% more sensitive to green and 25% more sensitive to yellow. A special gelatin coating is applied over the emulsion which imparts an added hardness to the surface of the film without impairing speed or development and fixing. This feature is valuable in all film sizes but especially so with small negatives. Finally the film has an improved anti-halation quality that results from improvements in light absorbing dyes, and it should be added that the fine grain qualities of Plenachrome have been retained in the new film. The working instructions which accompany each pack give full information as to developing formulas, and filter factors, and a time-gamma table is also included so it will not be necessary for us to discuss those matters here. In price the film is slightly above Plenachrome a $3\frac{1}{4} \times 4\frac{1}{4}$ inch pack costing \$1.15

Classified Advertisements

Items advertised in these columns may be purchased C.O.D. subject to examination and C.O.D. subject to ten days free trial if sent by express. If in doubt, safeguard yourself.

OUTFITS FOR SALE

◆Beira 35mm. miniature camera. 35 pictures Leica size at single loading, f:2.9 Steinheil in new Compur, Everready case. Lists \$60.00. Sell for \$30.00. H. M., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Brand new Cooke f:2.9 Anastigmat, 6 $\frac{3}{8}$ " focus. Complete with dust cap and aluminum lens board for 3 $\frac{1}{4}$ x4 $\frac{1}{4}$ Series D Graflex. Cost \$90.00. Sell for \$65.00. R. L. Saettele, 4133 Sacramento Ave., St. Louis, Mo.

◆6x13cm. Stereo Polyscope, f:4.5 Zeiss Tessar lenses, 12 plates automatic magazine, leather case, as new; what offer? Would consider exchange. Emile Devolder, 111 Lincoln St., Boston, Mass.

◆3 $\frac{1}{4}$ x4 $\frac{1}{4}$ Series D Graflex with Cooke f:4.5 lens and film pack adapter in excellent condition. Sells for about \$150.00. Will sell for \$87.50 cash. H. T., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Complete file of Camera Craft in good condition. September, 1929, to December, 1933, inclusive. Make offer. W. L. McAlexander, 616 South 85th St., Birmingham, Ala.

◆3 $\frac{1}{4}$ x4 $\frac{1}{4}$ RB Graflex, Kodak 4.5 lens, like new for \$50.00. Earl Canby, 533 North St., Fitchburg, Mass.

◆Ica Reflex, 3 $\frac{1}{4}$ x4 $\frac{1}{4}$, Graflex back, focal plane shutter (1/15-1/1000). Carl Zeiss Tessar f:2.7 6 $\frac{1}{2}$ ", film pack adapter, lens alone lists for \$150.00. Sacrifice \$65.00. M. T., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Graflex \$10.00. Dagor 3 $\frac{1}{4}$ x4 $\frac{1}{4}$ f:6.8 in Ilex shutter \$14.50, good condition. Will buy Stereoscopic cameras and lenses any size. Ben Graham, 711 North 16th St., Philadelphia, Pa.

◆8 mm. Cine Kodak, 8 mm. Model 25 Projector, each in case, and screen. Used three months, \$45.00. A. Pasek, 5325 Fleet Ave., Cleveland, Ohio.

◆9x12 cm. Avus Camera, Skopar f:4.5 in Compur, pack adapter, 8 holders, focusing back, and case. Fine condition, \$32.00. J. N. Moreno, 1229 W. Main St., El Paso, Texas.

◆35 mm. DeBrie Motion Picture Camera with 50 mm. 3.5 Krauss lens and tripod, complete, in fine condition. \$250.00. C.O.D. with Examination. Frank Jacobs, 1213 Third Ave., Seattle, Wash.

OUTFITS WANTED

◆Model "D." 4x5 Graflex. Without lens preferred. Also Cut film magazine. R. 418, Y.M.C.A., San Pedro, Calif.

◆Film Pack Adapter and Plate Holders for No. 3A Agfa Ansco Speedex Camera. C. Peters, 360 Richmond Ave., Syracuse, N. Y.

◆6 $\frac{1}{2}$ " or 6 $\frac{3}{4}$ " inch Anastigmat with shutter, Leota Arc Lamp, 4x5 Premo holders, telephoto lens and Korona film pack adapter. Earle's Studio, LaPorte, Ind.

◆Enlarger and accessories for 35 mm. Give full description and price. F. S. R., c/o Camera Craft, 703 Market St., San Francisco, Calif.

WANTED: Your camera to trade in on a new LEICA or ROLLEIFLEX. Liberal trade-in allowance. Bargains: Leica filters, \$3.00; Model D, \$85.00.

MINIATURE CAMERA SHOP

1600 Post St., San Francisco Ph. WA 4484

◆Table model fancy border printer. Send sample print. Must be reasonably priced and on terms. L. S. E., c/o Camera Craft, 703 Market St., San Francisco, Calif.

FOR SALE OR EXCHANGE

◆Will exchange my Vollenda f:4.5 and case, both in new condition; plus cash for your 2 $\frac{1}{4}$ x3 $\frac{1}{4}$ Maximar or Recomar. S. Boivin, 320-4th St., Petaluma, Calif.

◆Model "A" Leica, Elmar f:3.5 lens, range finder, carrying case, #1 and #2 filters, Corex tank, Filyo enlarger complete. Like new. \$67.50. Will consider good stereo camera in exchange. Milton Irwin, 4600 First Ave., So., Minneapolis, Minn.

HELP WANTED

◆A competent Commercial man in and out of Studio, with personality and business training. One desiring a future with established firm. Give complete experience and references, with photo in letter. AMATEURS NEED NOT REPLY. M. O. N., c/o Camera Craft, 703 Market St., San Francisco, Calif.

POSITIONS WANTED

◆Mr. Employer: Do you need a young assistant? Postcard to Preston Keene, 241 "B" St., Portland, Maine, brings information. Age 20.

◆Position wanted as assistant by young man, age 21. Will go anywhere in the West. A. Brodu, 1351-34th St., Oakland, Calif.

STUDIOS FOR SALE

◆STUDIO-STORE FOR LEASE. Long established portrait, finishing, framing, camera, and supply business in California city of 40,000. Little competition. Modern equipment. Splendid opportunity for skilled, careful workman financially responsible. Immediate income for nominal investment in working stock and merchandise. B. C. B., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Studio in good Colorado town of 10,000. Might trade for one on Coast. M. A. J., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Old age compels sale of fully equipped studio. Low rent, living rooms, skylight, kodak equipment. Investigate. A gold mine for someone. Tripps Studio, 159 West 2nd St., Pomona, Calif.

STUDIOS WANTED

◆Wanted to Purchase or Lease: a Photo Studio, San Francisco or Vicinity. Chas. F. Hill, Box 247, Hoquiam, Wash.

INCOME from your camera instead of expense. Low-cost, home course teaches you to make photographs for magazines, newspapers, advertisers. Tremendous demand. Earn good money wherever you live. Freebook, Universal Photographers, Dept. K, 10 West 33rd St., New York.

Target Pistols, Rifles, Shotguns, Revolvers, Microscopes, Binoculars, Telescopes, accepted in trade at liberal allowances on any photographic equipment, motion picture or "still." Authorized representatives of Leitz, Zeiss, Eastman, Victor, Bell & Howell, and every leading manufacturer. NATIONAL CAMERA EXCHANGE, Established in 1914, 5 South Fifth Street, Minneapolis, Minnesota.

CAMERA CRAFT



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H. H. Lott

1935
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PRICE 25c
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Projection Control

by
WILLIAM MORTENSEN

Second Edition

These two illustrations show the control exercised during the enlarging process by one of the four principal projection control methods, each of which is carefully explained in full detail in Mr. Mortensen's remarkable helpful book. No serious photographer should be without it. Each style is specifically illustrated—50 illustrations in all.



"Little Jimmie". Straight Print

CHAPTER HEADS

- I Scope and Uses of Projection Control
- II Equipment and Materials
- III Negative Quality
- IV Simple Projection Printing
- V 4 Methods of Projection Control
- VI Framing
- VII Local Printing
- VIII Distortion
- IX Montage and Combination Printing
- X Pax Vobiscum

Appendix: Advantages and uses of the Texture Matrix

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"Little Jimmie". Locally Printed and Framed



"La Penseuse"
Dr. Max Thorek, F.R.P.S.

Backgrounds In Creative Photography

Max Thorek, M.D.; F.R.P.S.;
K.C.I.; K.L.H.; (France)

IN Nature everything that we see has some sort of background to it. Nothing is absolutely isolated. Oftimes, however, Nature is not concerned in presenting her subjects in the most beautiful arrangements nor with backgrounds calculated to display them to the greatest advantage. It is, therefore, the province of the pictorialist to select those things that suggest the beautiful, the interesting or the sublime, and, according to his judgment, to arrange and contrast them in such a way as to emphasize the points to which he wishes particular attention drawn. It is for this reason that the subject of backgrounds in creative pictorial photography is important; it cannot, as so many photographers seem to think judging from exhibited work, be considered as of secondary importance but must be recognized as an integral part of the whole artistic composition and receive the proper deliberations due to it.

In a picture, no matter what kind of picture it is, there is a representation of one or many natural objects and, as in Nature, there must be some sort of background to these objects. If a picture is to qualify as a work of art, it must conform to its accepted principles. One of these principles is that a background must be in general harmony with the subject represented, be this a portrait, a group of figures, a landscape, a still-life group or an interior. Whatever the nature of the subject presented in the composition as arranged by the artist, the background must not be incongruous with it in tone or treatment or it will be in bad taste. Thus, while a study of a Bacchus with wine cup in hand might have a background suggesting inebriated fauns, it would not be good taste or the best artistic judgment to put such a background behind the portrait of a present day lady. (Iconoclasts, please, treat the last statement with consideration.)



"Rehearsal"

Dr. Max Thorek, F.R.P.S.

As a general rule the simpler the background is the better; it is quite permissible, however, and within the canons of art to show in the background objects which are in keeping with the subject presented; provided, of course, that they are subdued and do not clash with other precepts of pictorial composition. A portrait study of a distinguished scholar might well have in the background a subdued bookcase, or that of an admiral might show the sea. This was a recognized method among many of the great portrait painters. The introduction of such subjects, carefully arranged in tone, will make a portrait a picture.

Another rule of art requires that while the background may be in general harmony with the whole subject, it must not be so conspicuous as to draw the observer's attention away from the main subject. The background must be subordinated and while it is an accessory that cannot be omitted such distinction must not be given to it as to make it a subject in itself. This is perhaps of more importance in portraiture than in any other kind of composition, because in a portrait it is imperative that the observer's attention be focused on the subject. A study of portraits by the old master painters, such as Van Dyck, Holbein and Velasquez, will show that they paid particular attention to this and that their backgrounds were mostly quite plain and made to help the chiaroscuro by bringing the subject into relief and prominence. Thus in a portrait with strong lights on the subject, a dark background will have the effect of intensifying the



"Composition"

Dr. Max Thorek, F.R.P.S.

light whereas with a darkened or shadowed subject a very bright background will have the same relieving effect. When the subject is portrayed without strong lights and deep shadows a half tone background will have the effect of making the whole picture flat and uninteresting.

The old portrait painter had a great advantage over the photographer in that not only could he arrange the shade-tone of the background to suit the chiaroscuro of the whole composition, but, because he could use contrasting colors, he could actually obtain the effect of luminosity to his main subject or elsewhere. A light bluish-green tone in the background was an excellent color foil to the rosy fleshy tints of a portrait; similarly a violet-purplish tone in the distance gave the effect of actual light to the lemon tone of a distant evening sky when placed against it.

Camera pictorialists, on the other hand, deal with monochrome. Their medium lies in contrasting light and shade and mastering the vast possibilities offered in the rejection and use of half tones and nuances offered by monochrome; and we know from the work of first-rate pictorial camera artists that much can be achieved with this. The proper management of light and shade effects (*chiaroscuro*) is, therefore, one of the most important technical elements in pictorial photography and such management calls for the greatest skill. The background introduced by the man who understands what "pictorial harmony" is will always "ring true," while he who disregards this admonition will create "discords" or pictorial "anachronisms." Proper technic in introducing backgrounds is as much a proper part of the camera artists' work as is brush technic in the hands of the painter. It holds true in expressing backgrounds as in other parts of the picture.

Another important function of the background is that, in certain types of pictures, especially landscape and general outdoor genre pictures, it is a means of expressing distance and aerial perspective.

There are, of course, types of pictures in which details in the background may be made important, "close-ups" as it were; compositions in which there is little or no background proper, but acting only as part of the setting for the scenic representative picture which tells a story and which emphasizes an event rather than to focus attention on a central figure or group or other object. Historical pictures are of this type (genre pictures) of which the Dutch painters of the seventeenth and early eighteenth centuries, such as Van Ostade, Teniers, Wouwermans and Mieris were the great exponents. Later on Meissonier and others of the French school produced good examples. Here the background was by no means of minor importance. Many such pictures were interiors with good *chiaroscuro* effects and the most trivial and commonplace objects were reproduced in color and detail with the most exquisite and marvelous fidelity. Objects in the background often received as delicate handling as the chief actors in the scene. The present day characteristics of art expression seem, however, to lean toward the imaginative and suggestive rather than to small opertum fidelity.

Although the background must, as I have said, comply with what are accepted as the principles of art in general, harmony, proportion,



"Builder"

Dr. Max Thorek, F.R.P.S.



"Harnessing the Unseen"

Dr. Max Thorek, F.R.P.S.

suitability and chiaroscuro, yet art itself is subject to no dogmatic fixed rules and every artist in any form of art is allowed great latitude in expressing himself. He is after all the logical exponent of what he wishes to convey and may convey his conception in such manner as he deems best. It is for him to decide how much attention be concentrated on a particular part of his picture or subject; or he may, if he so desires, induce particular attention to a background rather than direct it elsewhere. It is he who "exposes" his own personality (psychological and otherwise) through the medium of his creative concepts.

Critics will point out incongruities and anachronisms in works of art that are commonly conceded to be masterpieces. Homer sometimes nods and the art unities are not always strictly adhered to even by the most orthodox. In a composition the figures though outstanding objects may be associated with accentuated objects in both foreground and background. There are many bizarre pictures today which are accepted in some quarters as artistic. The camera artist must be permitted to indulge his fancy, imagination and technique and be allowed to express his conceptions in his work as he will; his results will in the end classify his endeavors, either as lofty or as puerile and commonplace.

Martin Munkacsi

Nicolas Hâz

IF you have followed the trend of foreign photographic magazine illustration of the last few years, you probably have been attracted by the work of Martin Munkacsi, a Hungarian, born in Transylvania 39 years ago. His lively, zippy, often humorous snaps were to be found in many European annuals of photography and were a steady feature in the German illustrated weekly "Berliner Illustrierte Zeitung," which was published in pre-Hitler days to the imposing tune of 2,500,000 copies a week.

Munkacsi is a product of modern conditions, such as superspeed lenses, shutters, emulsions, speedy and inexpensive travel to any part of the globe, and the avidity of many readers for extraordinary photographs. In olden times it was a mark of great distinction for a painter to be able to sell his paintings for their weight in gold; a good modern photographer can do a hundred times better than that. Munkacsi is one of these fortunates.

When he was hunting illustrated copy as a modest "photo-riporter" (sic) of the largest Hungarian chain of newspapers in Budapest, he would not have believed that a few years later he would use his splendidly equipped large New York studio mostly as a place to play ping-pong in, because his outdoor picture making habits won't allow him to pose his models in the studio. He is a star-photographer without a ground glass and a tripod, his real studio is the world, outdoors. Happily he is not expected to pay rent for it.

The greatest benefactor of his youth was the "Hungarian Hearst" who had a grand talent for picking good workers and for keeping them satisfied on little pay. He used to red pencil the expense sheets of the reporters mercilessly. One day he clipped off one nickel of a perfectly legitimate bill of Munkacsi's. So he went home, smashed all his negatives (he is sorry now) blew his job, caught the next train for Berlin and in two days he was at work for the "German Hearst" (Ullstein Verlag) at a salary



Martin Munkacsi

which made his former editor pale with envy. His life was a grand jamboree for seven years to come. He was assigned to the most thrilling jobs not only in Berlin but all over the world. They would send him to Africa, Asia, all over Europe, yes they paid his fare on the Graf Zeppelin on its famous trip around the world.

Nor did he disappoint his editors, who did not spare expense or work to smooth his path into unheard of places. He brought in scoop after scoop, sometimes under quite dangerous conditions. One of his greatest successes was the snapping of the wedding party of Mustapha Kemal's daughter, but it took two ambassadors to help him to it.

Then came the new regime in Germany, in which a former house painter and a former photographer took charge of the art life of this great nation. Everything modern had to stop, and all foreigners engaged in picture making were either immediately discharged or were headed in such a direction. Munkacsi was not among either of these, they stood for him, probably because they knew that he was hard to replace. He is holding, even now, a contract with his former employers. But so many of his former friends and associates were dropped that he became lonesome and welcomed a fine offer from the American Hearst, who is his present chief.

His photographs are unexpected, surprising and extraordinary. Either he picks a subject which is in itself quite new, or he takes an old, hackneyed subject and does it in an entirely novel way. He likes to catch his models on the wing; they never pose in rigidly assumed attitudes, not



Martin Munkacsí



"The Tiff"

Martin Munkacsi

even in a loosely quiet one. He keeps them in actual movement if he has his way. Another of his favorite devices is to pick an unexpected angle, perhaps lying on his back, or hanging over a parapet, or being lashed to a racing automobile. He makes all his pictures on nine by twelve centimeter plates, with a hand camera (not a reflex). He does not use a distance meter but guesses at his focus, instantaneously, but with the greatest accuracy. His favorite stop is F 6.3, and his favorite exposure 1/250th of a second (if he can get away with it). If he must, he will use wide-open apertures to F 1.2, and shoot at 1/1500th of a second. He made snapshots with dim lanternlight and "candid" pictures indoors long before they became fashionable. Naturally not even the fastest plates are fast enough for him therefore he modified his technique to suit intentionally undertimed exposures.

He develops his plates in a strong MQ solution, at 77 degrees F. and has them all done in one minute and a half to two minutes. He can bring in a finished print four minutes after the click of the shutter, by stopping development in acetic acid, then enlarging from the unfixed negative. He once played a hoax on a distinguished party of editors and photographers, which they will long remember. He snapped a leaping dancer right in front of their eyes, then, by accurate timing with a stop watch, in exactly one minute, fifteen seconds, he brought in a well fixed plate and ten eleven by fourteen doubleweight enlargements. There was great amazement till he revealed that he did the entire job on the previous evening.



"Going Out"

Martin Munkacsi



"Tabby Cat"

Martin Munkacsí

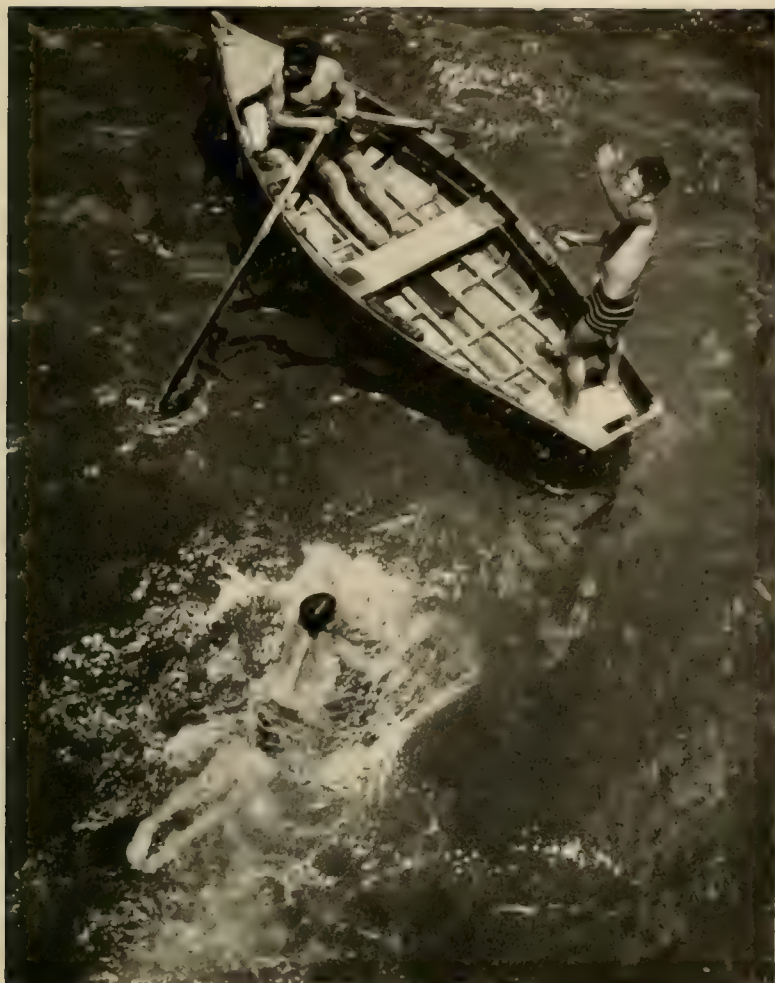
Some random notes about his ways of working and his ideas concerning photography might be in order.

He never makes more than two negatives of even the most important sitter. This habit is probably due to his press training, he was lucky if he could take only one pot-shot at certain famous individuals. Now he thinks that if he cannot make good at once he cannot do it at all. All the same just imagine clicking your shutter only once when doing Merle Oberon and Elizabeth Bergner and only twice at Anna Sten, Katherine Hepburn and Joan Crawford.

When he works in foreign countries he mounts a shiny brass dummy lens on the wrong side of his camera. Then he poses the always present crowd of boys in front of the dummy lens while he snaps the real object unnoticed.

He anticipates the movement he is taking. Just as hunters shoot ahead of the fleet game they want to hit, he snaps the shutter a moment before the action he wants to picture takes place. Whatever you see in the finder is too late to photograph. So sleepy persons aren't fit to do work like his.

He enlarges, often a small part of a 9 by 12 cm. negative to eleven by fourteen on glossy bromides. A little grain does not bother him. To show his work to visitors he enlarges to 30 by 40 inches on rough buff stock. These pictures seem to be amazingly grainless. He is one photographer who respects his word a lot. When he has two prints of the



"Divers: Canary Islands"

Martin Munkacsi

same negative, slightly different in quality, he is bound to send the lesser one to the editor, he has no heart to part with the better one, he says.

He does not refer to himself as a professional, he thinks he is an amateur who is paid well. He likes to picture anything as long as it moves or it is alive; carefully arranged still life he does not relish. He does not care how many images are crowded in his picture; he delights in photographing huge numbers of people or animals.

In spacing he follows only a few common-sense rules. For instance he leaves plenty of space ahead or below leaping or running figures, to make sure that they don't run out of the picture. He has no prejudice against any position for the main image within the limits of the picture. The dead center of the picture is as likely a place for this as any other.

He is averse to distortion unless it is done to achieve a humorous or other well contemplated end. He is keen for a carefully continued invisible line composition in all his pictures. He only *feels* these—makes them subconsciously—as, naturally, it would be impossible for him to speculate on them while making his exposures.

He does not care for a full-range tone scale in his prints. He evades pure whites and blacks, he thinks pictures made of grays are truer to life than those of full-range tone values.

Sometimes he makes high key and soft focus pictures. He does not limit himself to small apertures and anastigmats. But he does not care for low key, murky, mournful tone values. His is a cheerful, lively, active, nature—pessimism, grouchiness are as far from it as the moon.

Perfect rendering of textures is a high aim of his, but if he has to sacrifice either texture or well arrested action he prefers to sacrifice texture rather than action. In spite of his partly German training (as a photographer) he never photographs objects in even or regularly alternated rhythm. All his pictures are in free rhythm. Close-knit unity and crystal-clear comprehensibility are essential to a good picture, he holds. He always tries to make good in this respect.

He is not lazy. He carries lots of equipment, four, five cameras; ten, twelve lenses, and lots of plates on his excursions. That the miniature camera is so light in weight does not induce him to work with it. He thinks he can make steadier shots with a heavy camera and he needs lots of scope to recompose his pictures while enlarging.

He wants his pictures well-balanced, although most of his images are in peppy motion. He is a careful student of emphasis, hates to emphasize non-important images and subdue important ones.

The relativity of harmony, good quality, beauty and "art" is most obvious to him. No one traveling all over the world and working for many millions of onlookers could help but find out that what is "grand" to one is "terrible" to another—and nothing can be done about it.

This country can be congratulated on the immigration of such a capable and brilliant worker as Munkacsi. His insistence on the representation of life, youth, action, pep and go cannot fail to influence other workers to take advantage of the most modern means of photography, to picture that abundant, vigorous, swirling, healthy life for which America is so well known.

Processing Miniature Films In The Field

Harold Hedger

HAVE you heard the remark made, "I can hardly wait to see the pictures" when someone has "shot" the picnic, family re-union, humorous situation, or what have you. If you are a member of the large army of camera fans and like to take and finish your own pictures, you have probably at some time said, "I hope that one will be good."

If you could see the picture as a print within one hour from the time you exposed the film, or even within a few minutes by certain quick methods of development and printing, which I will describe, that would without doubt be a great satisfaction especially if it were something you did not want to miss, or if an error had been made and the picture could be taken over.

It was such situations as I have outlined that set me to work devising a scheme by which I could pack a small reliable outfit within the compass of a 2 gallon pail, that would give immediate results from my miniature camera. An outfit, so simple that a beginner could operate it successfully, while on a trip or vacation, without having to hunt for a dark room, or wait until back home again to develop the films or have them finished. And not only vacation pictures but possible news pictures worth real money provided they are submitted promptly while still news.

Furthermore every photographer knows that the sooner a film is developed after exposure, the better for final results. The common practice of taking a picture and then laying the camera away for weeks or may be months, and so on until the roll is finished, is both bad and entirely unnecessary. It is a very simple matter to cut the exposed film from the roll, and then attach the loose end of the unexposed film to the winding cover paper with a strip of adhesive material or plain gummed paper. This operation is done in the dark, in a changing bag, the exposed film thus removed is immediately placed in the developing tank and sent on its way to the final result, as will be later explained.

In removing the exposed portion of the film, it will be necessary to sacrifice one unexposed section only, to allow for cutting and leader for the next exposure.

If you wish to try your luck at selling pictures to the hundreds of open markets ready and willing to buy pictures of general or specific interest, this kind of business is well within the capabilities of a good miniature camera, in fact the minicam owner is often at a distinct advantage in getting pictures in tight situations where a larger camera could not readily and quickly be brought into action.

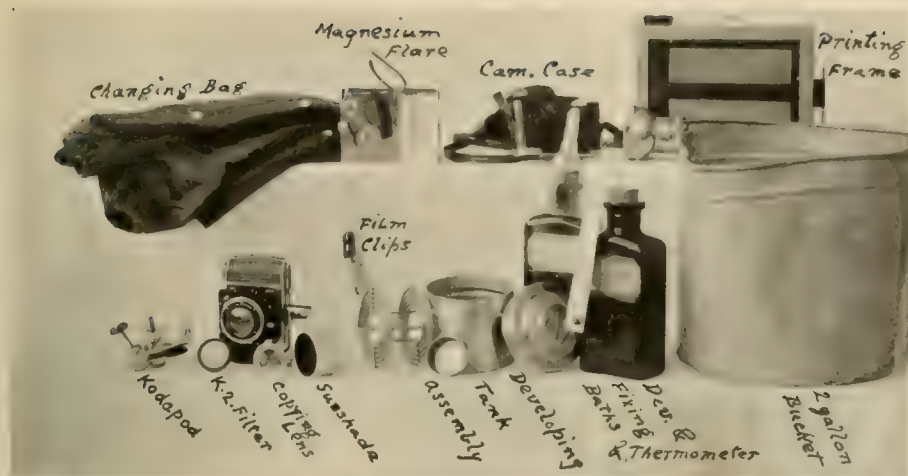
At this point the reader will probably be interested in a brief description of the very few but necessary accessories or extras for the camera, which should accompany the outfit, all of same are shown in the accompanying illustration as well as the processing equipment. My extras cost a little less than \$12.00 and although I have made many unusual "shots" I have never yet lost out because of something I did not have.

One necessity is a good yellow glass filter the kind not affected by heat or moisture, for correction of the ultra violet and blue for rendering clouds, snow scenes, etc., also with the modern panchromatic films one of the green filters may be used where it is also desired to correct the reds as well as blue. The yellow filter should be the equivalent of K.2, and if a green filter is used it should be the X.1 or X.2 according to whether the picture is being made by daylight or artificial light.

Unless you thoroughly understand the use of color filters, they are best left alone, and dependence placed upon the color sensitivity of the panchromatic film itself for rendering the colors of the object as nearly as possible in monochrome in the finished print, in correct relative values. The other three accessories are a sunshade, copying lens, and a optipod. The sunshade must be used if there is any danger of sunlight striking the lens, also if the light is very bright and there is much reflection, as in the case of water or snow, and care must be exercised to see that the sunshade does not cut off the angle of lens view and thereby cause dark corners in the print.

A copying lens attachment to fit over the front of the camera lens, is necessary when copying or photographing very small objects, this permits the camera to be moved up to within six or eight inches of the object, an obvious advantage when it is known that the shortest focal range when the camera is at its maximum extension is about 2½ feet. When using this attachment always stop the lens down as much as possible considering light conditions and depth of focus desired.

The optipod is a useful little gadget and for most purposes takes the place of a tripod, it can be attached to a table, chair, tree, almost anything when it is desired to hold the camera firmly for a time exposure. Steadiness of camera is very essential not only when making time exposures but also for instantaneous work at the moment of exposure, any jerking or snapping of the shutter release will cause a blurred negative, the operator should practice and acquire that gun trigger pull to avoid disappointment in the final picture. This applies very forcibly when using a miniature camera for the negative must be of the finest quality to stand the subsequent enlarging to 5x7, 8x10, or larger if desired.



The Complete Equipment

With a miniature camera and lens of the high speed short focal length type and the before described accessories, the operator is now ready to get a real thrill out of making the pictures and processing them right now, with this small but efficient equipment, the procedure will now be described.

The most important item of this working equipment is the changing bag, or if you prefer "the portable dark room", shown in the illustration on the left of upper row. This is used when unloading the exposed roll of film or any part of it on to the winding reel of the developing tank and is the only operation that requires total darkness. It can be used right out in the open field wherever you may be, and it costs very little. This bag is made of strong light proof cloth, open at one end to receive the material and then securely closed with snap fasteners. The arms are then thrust through the sleeves at the opposite end, up to the elbows, these sleeves are furnished with elastic grips to fit closely and exclude any light. From then on you "feel your way" and it is surprising how quickly you learn to work without seeing, because you have to think about every move made by the hands. It is very important to keep the inside of this changing bag clean, no chemicals must ever be put inside it, as contamination of the cloth with same is certain to cause film spots and other troubles.

The most serviceable developing tank is circular in shape and made of stainless steel with winding reel of same material. Some of the advantages of this metal are its strength and the ease with which it can be cleaned when necessary. The prospective purchaser of this kind of equipment is warned against tanks made of brass, copper, or having soldered

joints, because contact of the chemicals with any of these metals will cause certain reactions to take place, producing chemical fog in the film which will ruin its quality. All connecting parts of the stainless steel tank are spot welded, removing any possibility of trouble from the above mentioned cause. The film is wound on to the reel emulsion side down, this prevents it coming in contact with the hands while winding and eliminates any chance of finger marks on the negatives. In winding the film care must be taken to feel that the holding clip on one cross bar of the reel, centers the end of the film. Unless this precaution is taken the film will wind sideways, buckle, and run out of the grooves which hold the edges. When starting to wind, give the film a slight downward bend on each side, this will allow it to pass evenly over the first cross bar and into the first receiving groove of the reel, after that it cannot easily get off track.

Having now run the film on the reel, place it in the dry tank, secure the lid, and remove from the changing bag. Before starting to develop, run two or three changes of water into the tank through the filler top, this will remove any air bells which may have formed on the surface of the film. Then pour in the developer, it will take about 14 ounces to properly cover the film in a tank made for vest pocket size film. During the process of development shake the tank gently every few minutes or so. on long development, this assists even development and makes for better negatives. Should the tank have a tendency to leak where the lid joins the bowl, a stout rubber band one half inch wide placed around the tank over this joint will overcome this objection entirely. There are many formulae for fine grain developers most of which restrain development by the use of Potassium Bromide. The disadvantage of this seems to be that shadow detail is much reduced or eaten out, even if the exposure is increased within reason in an effort to overcome this fault. I am giving what I have found to be the most efficient fine grain formula for this purpose. It will be observed that this uses neither Potassium Bromide or Sodium Carbonate, yet gives excellent full detail negatives with normal exposure, and at the same time eliminates grain sufficiently for all practical purposes.

Metol	.	.	.	.	.	.	.	.	.	75 grains
Sodium Sulphite (anhydrous)	.	.	.	.	.	.	.	.	.	5 ounces
Borax	.	.	.	.	.	.	.	.	.	150 grains
Water to	.	.	.	.	.	.	.	.	.	1/2 gallon

Use without dilution and develop 15 to 20 minutes at 65 F. according to how much contrast you want in the negative. Sounds freakish, did you say? Well try it out and compare results with others, as I have done. The other things essential to fine grain processing are good rinsing between development and fixation, a fresh fixing bath, thorough washing after fixing, and drying as quickly as possible by natural means, that is without using heat. When development has run its allotted time pour the developer out of the tank through filler top back into a bottle kept for used developer, (it can be used several times if kept up to strength). Then pour in the rinse water. In very hot weather a chrome alum hardening bath should be used after rinsing and before the fixing bath, the film being allowed to remain in this bath about five minutes. After the film has been in the fixing bath a minute or so, the lid of the tank may be



"Deaths Head Moth"

Harold Hedger

Copying attachment over lens, focused at 6 inches f.11, exp. 12 seconds, light very weak well after sunset.

removed and the film allowed to fix twice as long as it takes to clear the milky appearance from the emulsion. It is washed while still on the reel for ten to fifteen minutes in several changes of water then removed from the reel and hung up to dry as before stated.

A small glass funnel is useful for pouring solutions and straining any sediment from the developer which seems to form after it has had repeated use. The two gallon bucket shown in the illustration is the carrying container for the outfit and leaves plenty of room for paper wrapping to prevent breakages, however when solutions are carried in glass containers, it is a good plan to cut a section from an old inner tube, and seal one end by vulcanizing it. The bottle is packed in this and the other end of the tube tied with stout cord. Should a breakage occur the chemical will be in a water tight bag and will not be lost, or cause damage to other equipment. The section of inner tube should of course be carefully cleaned on the inside from all impurities right down to the pure rubber, so there will be no contamination from that source. If it is desired to avoid carrying weight and bulk, the chemicals can be carried in dry form securely as follows:—Take a block of wood 2x4 will do, and bore several holes on its 2 inch surface down almost to the other side. Weigh out the re-



Harold Hedger

quired chemicals and place in the holes, plug the openings with cardboard or corks and dip the whole block in melted paraffine. This makes an air tight and damp proof container which can be thrown around almost any old way without fear of damage or losing the chemicals. If preferred the chemicals can be wrapped in cellophane before placing in the holes and the block then dipped in the melted wax. A small printing frame, and a package of solio or printing out proof paper permits making daylight prints from the negatives. These can be fixed and made permanent on the trip if desired, by using toning and fixing powders as sold by most photographic stock houses at about 35c a tube, one tube being good for quite a large number of prints. Make the prints a little darker than usual as they lose out some in the toning process.

A pocket flash light is always useful, and a sure camp accessory in any event, better take along a few spare batteries for it. A small pocket magnesium flare the size of a cigarette case is very useful for night shots

"Train Wreck"

Harold Hedger

Three seconds at F:2.5, at midnight with no added illumination.



or lighting up dark places where artificial light must be used such as a little extra illumination for a night picture around the camp fire. A good small thermometer such as the Eastman Tray thermometer is an absolute necessity it being remembered that all tank development is by the time and temperature method, this is where the old carrying bucket again comes in handy for immersing the developing tank in water to assure the correct temperature during this important part of the process. All the equipment is shown in the illustration. Generally speaking the owner of a high speed miniature camera will with such an outfit as I have described, get many unusual and salable pictures. Due to the fact that the scope of this camera is very large, and its small bulk makes it readily portable for instant action, when the larger camera would not be so handy. Enlargements from these tiny negatives are best made on special projection machines built for the purpose, the manufacturers of same are fully up-to-date in what they have to offer in this line.

Now for a brief description of extra fast production by which a print can be seen within a few minutes from the time the negative is made. A highly concentrated developer is the first essential, the Caustic Soda kind should be used. The procedure is as follows:—Remove the film from the roll as before described, and place it in the tank. Dilute the developer so its time will be about 1 minute, or so at 65°F. Pour off the developer and pour the rinse water into the tank, the operator should remember that with a developer of such strength, that the action continues in the rinse water at a tapering off rate of speed. Rinse for another minute, and immediately pour in the quick fixing bath. Allow it to fix until the milkiness just disappears, and then rinse for a few seconds to remove the hypo from the negative. Place the wet negative in the printing frame being careful to get perfect contact with the glass by placing a sheet of thin Kodaloid over the wet negative and gently but firmly press out the air bells. Then put the printing paper on the Kodaloid being sure that there is no water that will come in contact with the paper and cause it to stick. Print in bright light in the usual manner, and use the toning and fixing solution if desired to make the print permanent. If the negative is valuable it should be returned to the fixing bath, washed, and dried as before mentioned. If a dry print is wanted for immediate delivery it will not be as permanent as one that has been through the regular printing and finishing process, but may be accomplished in this manner. Remove the print from the fixing solution, rinse it for about one minute, immerse in a bath of alcohol for about 20 seconds which will absorb the water in the print. Now pin the print to the end of a stick, and set it on fire, waving it around in the air while burning off the alcohol, or the print may burn up too. It will then be dry. If an enlarged print is desired from a wet negative, a mercury vapor light should be used for projecting owing to the lack of heat with this form of illumination. The wet negative made by the quick process has a very soft emulsion and will not stand much further abuse from heat in printing. In conclusion it may be said that the prints used in this article for illustrations are furnished to *Camera Craft* in about 6x8 size, the original negatives were made on panatomic film, half vest pocket size, and processed as described, with the equipment shown.

A Diagrammatic A B C Of Depth Of Focus

Philip Conklin

DEPTH of focus is one of the most positive exemplifications of the old adage about eating one's cake and not having it. It can be had only at the expense of speed (or by reducing size of image). It is a geometric matter of the crossing of straight lines and for given conditions is alike with all lens formulae.

To me the simplest, most instructive, and most useful approach is that which relates to the ratio between the size of the object being photographed and the image of that object being projected. This is thesis I and is stated that depth is, for all practical purposes, inversely proportionate to the size of the image. When the distance of an object from a lens is doubled, the image is halved except for the negligible joker of one extra focal length which is inescapable. It is very trifling in most cases and by ignoring it great simplification of description is permitted.

Now if you will conceive of the image as consisting of an infinitude of radiant points, we can approach the diagram which represents two such points, C and D, outside the camera and the lines which embrace the bundle of rays from each to the lens diaphragm, AB, D is twice as far from the lens as is C.

It may seem superfluous to call attention to the fact that the lines diverge twice as acutely from one point as they do from the other but the thought is necessary to the development of the idea. That they do is evident because they both reach their maximum (and equal) separation at the diaphragm.

Now let us consider moving point C toward the lens until the point becomes a circle, let us say of 1/100 of an inch; isn't it perfectly evident that point D must be moved twice as far to become a similar circle? This is true both with forward and retracting movements. Therefore there is twice the depth at D that there is at C.

Now for thesis II. Reducing size of diaphragm increases depth. Let us make AB half the size it now is. It doesn't take a great deal of geometry to make one realize that we have now doubled the acuteness of both angles C and D. By a different method we have again doubled our depth.

Inasmuch as the light-passing efficiency of a diaphragm is proportionate to the square of the diameter, in the latter case we have quadrupled our exposure.

It would seem, then (and it is an argument for miniature cameras) the better way is to make small images. The only drawback is that then

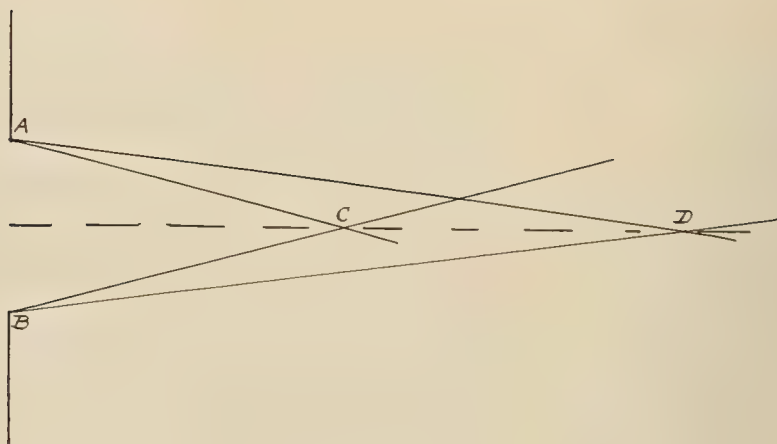


Fig. 1

conditions inside the camera become more exacting; the emulsion must be more nearly in the focal plane or trouble will ensue when image is enlarged. The ground glass, if any is used, must register most closely with location of the emulsion. These are mechanical conditions and shouldn't be taken for granted, even in the best equipment, but should be verified. A careful checking by focusing with a magnifier on a fine screen and a permanent adjustment if necessary isn't altogether a foolish operation.

Now to fix deductions from the drawing firmly in our minds, let us offer them again in one terse sentence.

TO DOUBLE THE DEPTH, HALVE EITHER THE SIZE OF THE IMAGE OR THE DIAMETER OF THE DIAPHRAGM.

Reducing the diaphragm one notch increases depth 50 per cent and, strange as it may seem, opening it one notch reduces the depth 33 per cent. This is only an apparent anomaly. Ten increased 50 per cent is fifteen but to step backward we reduce fifteen $33\frac{1}{3}$ per cent to get ten.

Where apertures larger than F.8 are concerned, these "notches" are not uniform or, perhaps, simple. It might be instructive to some to consider a theoretical table expressed in parallel columns of markings and their squares. Here are the markings with which each step means a doubling (or halving) of exposure.

F values	relative efficiencies	F values	relative efficiencies
11.3 squared equals	128	2.8 squared equals	8
8. " "	64	2. " "	4
5.6 " "	32	1.4 " "	2
4. " "	16	1. " "	1

Figures carried down to F:1 for the movie maker.

As an aid to memory note that in the first column alternate designations double, in the second each succeeding number is in the ratio of 2 to 1.

One other thing this line of reasoning disposes of is the old but still prevalent fallacy, or half truth, that a short focus lens has more depth

than a long one. It has more depth because it makes a smaller image. If it be used to make an image the same size as a longer focus lens, the depths are the same. As a matter of fact, with the same relative apertures and same ratios of projection, all lenses have the same depth. This assertion can be maintained with mathematical incontrovertibility.

Apropos of the extra focal length mentioned previously let me offer a thought a little aside from the main subject. If the object is four times the size of the image, the distance from the lens to the object will be four times the distance from the lens to the ground glass. These relations will be constant for all sizes. The two distances are conjugate foci and to determine the longer one in inches, an arbitrary one (unit) must be added to the relation between the two foci, followed with a multiplication by the focal length in inches of the lens being used. In the case mentioned above (ratio 4:1) the longer distance would be 4+1 focal lengths. This sum of five focal lengths divided by the ratio (4) gives the distance on the other side of lens. Expressed in simple mathematical formula it would be

$$\frac{(\text{ratio}+1) \times \text{Focal length}}{\text{ratio}} = \text{Longer distance}$$

and

$$\frac{\text{Longer distance}}{\text{ratio}} = \text{Shorter distance}$$

Thus can be determined the maximum focus lens permissible for enlarging in a restricted space.

The writing of this article was prompted by the practical need of the knowledge and its application to the following problem:

In groups of three or four people if they are all equally distant from the camera it doesn't seem possible to get an attractive arrangement. A sort of a stiff "picket fence" effect seems to result. In a more pleasing arrangement some of the sitters must be brought in front of others. This condition always exists in the case of a mother with child on her lap. Such groups made on 5x7 plates require a diaphragm of about F. 5.6 to get all the subjects in focus, some heads being nearer the camera by 8 or 10 inches.

Under my skylight in December, even with the aid of some artificial light, F. 5.6 necessitates an exposure from $\frac{1}{4}$ to $\frac{1}{2}$ second. Such exposures on children result in movement in 30 or 40 per cent of the negatives made. Under these conditions heads would be, let us say, about $\frac{5}{8}$ inch long. If I make them $\frac{1}{2}$ or even $\frac{1}{4}$ this size and use fine grain developer, I can later enlarge to 5x7. In the one case I am able to open the diaphragm one notch and cut the exposure in two and with the smallest image mentioned, I can similarly again cut, with a resulting need of only 1/16th second instead of the original $\frac{1}{4}$. No loss of depth in any case but chance of movement greatly reduced.

Another argument for making small images is that the retraction of the camera improves perspective.

Cinema Section

Edited by

William A. Palmer

Kodachrome Technique

NOW that Kodachrome film has been available long enough to give us a chance to try one or two rolls, it is time to compare the technique necessary for this new film with that for the black and white. Kodachrome film truly brings color to the point where it can be handled as easily as black and white but there are certain phases of lighting that must be changed to give the most successful results.

It has been a rule with monochromatic photography that the more unusual lighting effects, such as the back lighting of a subject, give the most pleasing pictures. We have been told to work early in the morning or late in the day in order to take advantage of angular lighting and its consequent long shadows. Flat lighting and lack of contrasts were avoided. Now, however, we must make a right-about-face, for when photographing in color we are dealing with contrasts of colors. Contrasts of light and shade are not so desirable.

We can put down, then, the first new axiom for color filming: An even distribution of light is desirable; heavy shadows should be avoided.

When working in direct sunlight a good arrangement of subject and camera is the classic "box brownie" lighting of keeping the sun at the photographer's back. However, this type of lighting needs the help of reflectors to illuminate the rather heavy shadows that are caused under the noses and in the eye sockets of the cinemactors. A reflector is a necessity if a person wearing a hat is being photographed. The reflector is held low and to one side to reflect the light up into the shadows as shown in Fig. 1.

Perhaps the most desirable lighting for close-ups of people with Kodachrome film is obtained when working on a slightly cloudy day. At this time the light is wonderfully diffused and yet reasonably brilliant. The annoying harsh shadows under facial features are absent and reflectors are not necessary. For long shots, scenery, etc., a brilliant sunlit day is preferable.

Backlighting with color film should only be attempted with the proper reflectors to give a strong front lighting otherwise facial tones in the shade will be very disappointing. Figure 2 shows a good lighting arrangement for backlighted color close-ups. Reflector No. 1 is a "hard" surface made of tin

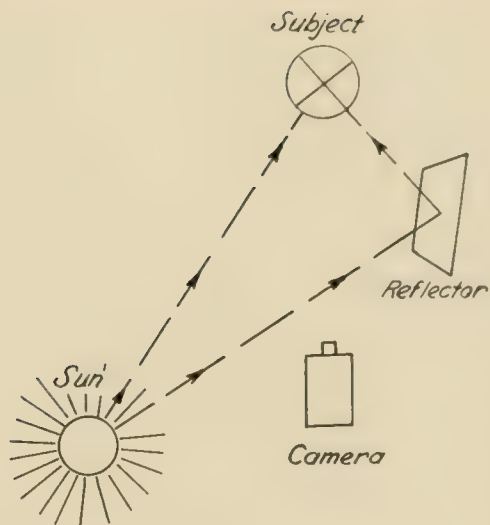


Fig. 1

foil glued on a wall board base and held up at a height of about two feet above the subject's head so that its reflected rays fall at a downward angle upon the subject. It is somewhat difficult to hold a reflector at a height and a stand or tripod as recommended in the September 1934 issue of the Cinema Section is a great help. Reflector No. 2 is a "soft" surface reflector made of a sheet of white blotting paper tacked upon a wood frame. It is held nearer the ground than the "hard" reflector.

With backlighting an exception and straight front lighting the rule, it would seem that the problem of lighting has been definitely simplified. This is true, but to make up for the simplification of lighting technique there is the additional factor which was not even considered in monochrome photography: color design and harmony.

In black and white photography we have no concern if magenta and orange-red, purple and green are found together in a scene. As long as their rendition on the finished film is in pleasing densities of light and shade, we are happy. When shooting color, though, we have to watch each scene to see that the color scheme is not chaotic. In general a color scene is most effective if the center of interest dominates in color brilliance over the background. Subdued colors and neutral tints are most suitable for color backgrounds. Also one must guard against having too great a display of different colors in the same scene, remembering that different shades of the same color are always effective. If, widely different colors are used together, they should be of different intensities, one considerably darker than the other.

There is another new axiom for color filming which we had better take to heart: Kodachrome film must be correctly exposed to give proper color rendering.

Ordinary black and white films have a good deal of "latitude". That is,

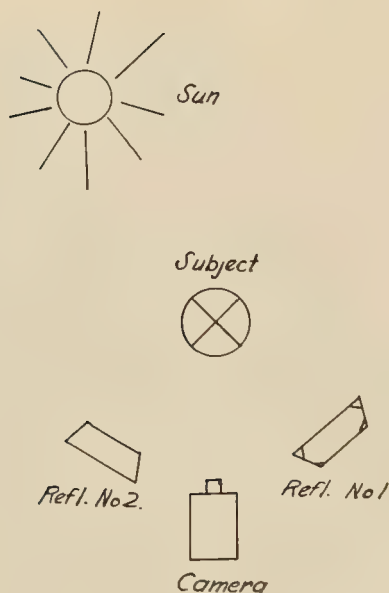


Fig. 2

there is provision in the developing process to compensate for inaccuracies of exposure so that we may give half as much or two times as much exposure and still get a film for projection with approximately the same density. Now, however, if similar compensation methods are used to try and save poor color exposures, the color values are upset and the film will tend to have a domination of certain colors. Under exposed Kodachrome film tends to have a bluish cast, over exposed film to be reddish.

The obvious solution to the demand for accurate exposures is the faithful use of a good exposure meter, preferably of the photo-electric type. One may pride himself on his ability to judge light condition and feel that it is a reflection upon his skill as a photographer if he uses an exposure meter, but the eye will soon show that it is not accurate enough to judge color exposure.

So far we have spoken only of exterior color photography. Now, briefly turning to the subject of interiors with artificial light, we find there is a bit of difficulty retaining proper color values. When photoflood lamps are used for illumination it is necessary to use a special filter made by the Eastman Company for that purpose. It is desirable to use a good number of the lamps in order to accomplish the double purpose of furnishing plenty of light and an even distribution of light. Unusual and extreme lighting effects that are often good in black and white photography should not be attempted.

The white flame arc lamp which was very popular in the days of orthochromatic film can be put into service very successfully for color photography. The white flame arc gives a very intense white light and will give very much higher efficiency than the mazdas because a compensation filter need not be used. Two twin arc lamps operating at fifteen amperes each will give a light equal to about ten photoflood lamps. The arcs have the disadvantage, when operated on alternating current, of flickering a good deal. The flickering is less noticeable when several units are used. Very interesting interior color

lighting can be obtained by using a combination of arc lamps and photofloods. Arc lamps can be used for the general lighting, giving an evenly distributed front light. Then the photofloods in brilliant reflectors, adjusted for spot light effect, can be used for top and side lighting. When the color scenes are photographed with this lighting without the use of the mazda compensating filter the effect is one with normal color values from the white front light and a delightful golden glow wherever the mazda light falls.

When determining exposures for interior lighting the directions given by the Eastman Kodak Company in their instruction booklet should be followed carefully as long as photofloods are the illuminating medium. When arc lamps are used, the exposures can best be determined by the use of a photo-electric exposure meter using daylight factors.

Burning Wipes

HERE is a new way to introduce a scene or title in a most spectacular manner. The effect is equally as impressive on color or black and white scenes. As seen on the screen there first appears a dark even background. Then, suddenly flames shoot up from the bottom of the frame making a vertical column of fire. This vertical flame then slowly moves across the scene and in its wake leaves the normal scene or title. The effect is so startling that one gets the impression that it must be a very intricate double exposure or fancy printing job, but in reality it is a very simple procedure.

The burning wipe is produced by an arrangement of apparatus as shown in Fig. 3. A rectangular frame of heavy wire is fashioned large enough so that it may be placed about three feet in front of the camera and not cut into the field. $1\frac{1}{2}$ by 2 feet is a good size when it is to be used with the regular 1 inch lens (12.5 mm on 8 mm equipment). The frame is supported by wiring it to a light stand. Now the wire frame is covered with tissue paper of a dark color, red being good. The tissue can be folded around the wire and pasted, or held there by paper clips or bits of adhesive tape.

With the camera set up and focussed on the scene or title beyond the tissue covered frame, the starter button is pressed and a lighted match is touched to the tissue paper along the bottom of the frame. The wipe is then made automatically. If the match is supplied at either lower corner of the wire frame, the flame will shoot up to the top almost immediately and then the tissue paper will burn across in a vertical line in the manner of the more familiar type of wipe. If the match is applied to the center of the lower edge of the frame, the flame will shoot to the top as before and then the burning will continue in both directions disclosing the scene in the manner of a "barn door" wipe.

If this device is used out in the bright sunlight, the flames are hardly

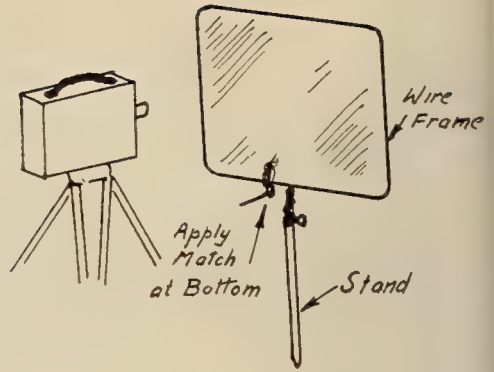


Fig. 3

noticeable as such and the paper seems to merely crumple away. But when used in more subdued light and photographed on pan film or Kodachrome, the flames show exceedingly well. Thus there can be a number of variations which can be used to dress up one's films.

Questions and Answers

Question: Which is the best type of printer for moving picture film, the step or continuous?

Answer: The step printer is considered preferable for the most exacting work, for it automatically takes care of shrinkage in the negative and causes no loss of definition. The continuous printer is usually designed to minimize the effect of difference in length between negative and positive films but cannot completely take care of all degrees of shrinkage.

Question: In photographing from an airplane is it better to use a telephoto lens or the regular one.

Answer: A telephoto lens should not be used when shooting from an airplane, for it will make the motion of the plane too apparent. The regular lens with a light yellow filter should be used as a general rule. If it is necessary to use a telephoto lens in order to obtain a larger image of the subject matter, the camera can be operated at slow motion speed which will slow down any sudden dips of the plane.

Question:—Does it make any difference from what distance the projector is operated if the proper lens is used to give the same size picture.

Answer: The same size picture projected from a greater distance with a longer focal length lens will not be quite as bright because the longer focal length lenses have a smaller aperture and there is a certain amount of loss of light in traversing the greater distance. Also the projector condensing lens is designed for greater efficiency with the regular two inch lens.

Fourth Award

Advanced Class

■ Mr. Grayston presents a print with much intrinsic beauty, which shows the peaceful quiet of the sun-bathed country village in a most attractive light. One is tempted to say, "what a swell place to be lazy". The two towers are beautifully placed and nicely accented to act as the dominant interest. The mood of the picture demands an easy, quiet composition without violent lines or a too strong sense of movement. It seems evident that Mr. Grayston has appreciated this and has therefore made his composition almost symmetrical. Notice that we say almost. A perfectly symmetrical composition would be rather rigid, and too formal for such a scene. By placing the towers slightly off center and by unbalancing the lines of the sidewalks, it seems that just the right amount of variation has been introduced. Often a series of horizontal shadows act as bothersome hurdles to the eyes easy progress. There is no such difficulty in this case for the shadows are kept quite luminous and observe that they diminish in length, which fact helps to carry the eye into the picture.

Data: 8x10" Century Universal View; 18" Voigtlander; $\frac{1}{2}$ sec. at F:11, with K-2 filter on S.S. Pan.; print by projection through back of E.K. Proofing Paper.



"Ste Generieve de Pierrefonds"
W. P. Grayston



"Sand Ripples"
R. Owen Shrader

Data: 4x5" Korona View; $5\frac{1}{4}$ " Tessar; $\frac{1}{10}$ sec. at F:22, on S.S. Pan., at 7 A.M.

Fifth Award Advanced Class

■ Sand dunes offer wonderful opportunities for interesting combinations of beautiful curving lines with the intriguing textures and corrugations of the rippled sand. Thus we find a bold sweeping line which establishes the major motif, and this is repeated with infinite variation by the sand ripples. Further variation and accent is supplied by the well placed shadows. It might be well to point out that shots of this kind demand a low angle of light, for only under such lighting will the ripples stand out with sufficient clarity, and only under such lighting will strong shadows be present. These last are essential if a monotonous all-over tone is to be avoided. One could wish that the shadow in the foreground did not carry all the way across the print. It would help if the lower edge of this curved upward at the right for then the curving line which constitutes the major motif would be virtually continuous and would not be broken by the right edge of the print as is now the case.



"Glistening Footprints"

Dr. Michael Wishengrad

Amateur Medal Print

■ "Glistening Footprints" is notable for simplicity of structure and nice rendition of textures. Unfortunately it seems to suffer more than is usual in the reproduction process. Perhaps this is because the original print is in a lovely shade of blue and we miss this coloring. An interesting problem presents itself in connection with the black tree trunk which appears in the upper left. A number of amateurs who have seen this print instantly inquired if the tree trunk did not constitute a distracting black spot that should be trimmed away. If such a trimming is attempted however we find the results very disappointing for the picture becomes overly simplified and there is not sufficient weight in the upper right to restrain the strong directional force of the path. As we study the print we come to realize that the tree trunk is not nearly as much of a liability as appeared at first. It's "distracting" qualities are reduced because it is echoed by the rock in the upper right and we notice that there is the suggestion of a triangular relationship between the dark area in the lower left and the two dark spots in the upper left and right. We see then that the tree with its accompanying shadows performs the necessary function of providing weight in the upper left that acts as a counter force to the directional thrust of the pathway, and for that reason we cannot trim it away. Possibly the picture might be slightly improved if instead of the tree there were a spread of smaller bushes such as appear in the upper left corner and just to the right of the tree. If so however they should be tall enough to cast shadows down to the lower left corner of the print, so that this desirable tying together of the elements of the picture would not be lost.

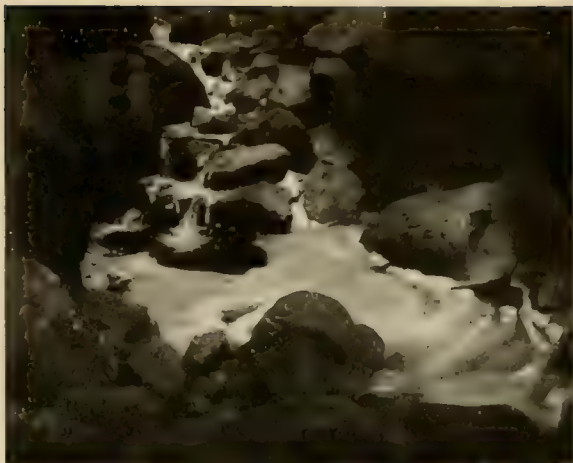
Data: Zeiss Super Ikomat; 1/25 sec. at F:4.5, on E.K. S.S. Pan., in M.Q., with K-1 filter; chloro-bromide print.

Second Award

Amateur Class

■ Miss Forster has found an interesting and subtly appealing little pool and done a good job of photographing it. For us a large measure of this peculiar appeal lies in the woebegone aspect of the little pool so completely surrounded by heavy masses of dark rock. If the picture does not strike one in that sense we imagine there would be the desire to reduce the large rock areas by trimming. We tried to do this but could not find a satisfactory trim. The difficulty lies in the fact that if more than a very little is trimmed from the right we start to cut into an interesting part of the pool that is vital to the picture. If we trim from the left and bottom the picture becomes top heavy because the large mass of rock in the upper right is then not balanced by the other rock masses, and if we trim from the top we reduce or eliminate the diagonal movement of the stream, which is a desirable feature. We are not prepared to say that any improvement would result by printing the picture reversed as regards right and left but those who have formed the habit of moving into pictures from the lower left corner will probably prefer it that way, and we cannot see that such alteration would be at all detrimental.

Data: $2\frac{1}{4} \times 2\frac{1}{4}$ Rolleiiflex; 1/25th sec. at F:4.5 on dull cloudy morning; Agfa Fine Grain Plenachrome, $10\frac{1}{2}$ minutes in DK-76; Dassonville Charcoal Black F, in Amidol.



"The Ice Pool"

Helen M. Forster



"Introspection"

Alex Silverberg

12" Turner-Reich; 5 secs. at F:8, on E.K. Portrait Pan., in DK-50; E.K. P.M.C. #11, in D-72.

Third Award

Amateur Class

■ Mr. Silverberg offers a finely executed portrait, well placed in the picture space, with an interesting pose and expression, and good technical quality. The most interesting point of discussion about this picture seems to be in regard to the two light toned shoulder areas on either side of the print. It is a difficult matter to set up two such high key areas almost equal in size and shape and placed at either edge of the print without there being some suggestion of their working against concentration of interest. We do not say that these constitute an actual distraction that materially injures the success of the picture. We do feel that it would be better to subdue one or the other, preferably the one on the left. This might have been accomplished by arranging the dark-toned vest to cover the shoulder. Cover up the light shoulder area at the left and see if you agree that the face then stands out a shade more strongly.

Data: 4x5" film in E.K. 8x10" 2D camera;

Fourth Award

Amateur Class



"Pattern of Farmland"

L. H. Shaw

left center of the print. The band just above it, as well as the other bands have such interruptions. As things are the eye is tempted to run out of the print along this first band and must make an effort to follow the desired path. It would not be difficult to touch in what would appear to be a pathway at the proper point.

Data: $2\frac{1}{4} \times 3\frac{3}{4}$ " Kawee; 10.5 cm. Zeiss Tessar; E.K. Panatomic film in Metol; print on Agfa Brovira Rough.

■ Aerial views with pictorial quality are something of a rarity and we feel that Mr. Shaw offers an interesting one for our inspection. The placing of the center of interest in the extreme foreground is unusual but appears to be justified, for in this position it accents the expanse of terrain above it, enhances perspective which is likely to be weak in this type of picture, and serves as a strong starting point for the movement of the eye through the picture. It will be evident that this movement takes a zig-zag form moving from the lower left first diagonally right, then diagonally left, and so on into the upper right corner. This movement is well maintained except at one point. You will notice that the first of the five bands that run diagonally across the print is not interrupted at any point but sweeps entirely across the print. To properly maintain the movement mentioned above this band should be interrupted by a line at right angles to it, somewhere around the

Fifth Award

Amateur Class

■ This is an excellent piece of theatrical photography. The lighting has been cleverly arranged, the background has been well handled, and there is a considerable degree of realism about it, with little suggestion of the artificiality that so often spoils shots of this kind as far as pictorial purposes are concerned. The one point at which the picture may be said to have departed from the above list of virtues, is in respect to the brilliance of the lighting. Would it not be more in keeping with the environment and character portrayed to have used a more subdued, and softer lighting? In other words spot-light illumination is a shade too modern and up to date for the backwoods.

Data: 5x7" E.K. View; 7" Goerz Dagor; 4 secs. at F:16, on E.K. Panatomic, in DK-76, by one 500 W Spot; Defender Velour Black S. in M.Q.



"Jeeter Lester"

Don Kirby Oliver

Monthly Competition

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class: H. F. Kells, for the Camera Club of Ottawa; James S. Lawshe and R. Owen Shrader, for the Los Angeles Camera Club; W. P. Grayston, for the Montreal Camera Club; and John Schiede, Jr., for the Telephone Camera Club of Manhattan.

The following won points for their clubs in the Amateur Class: Don Kirby Oliver, for the California Camera Club; Alex Silverberg, for the Cleveland Central Y.M.C.A. Camera Club; Dr. Michael Wishengrad, for the Miniature Camera Club of New York; Helen M. Forster, for the Photographic Society of San Francisco; and L. H. Shaw, for the Schenectady Photographic Society.

Contributing Clubs

Baltimore Camera Club	Miniature Camera Club of New York
California Camera Club	Montreal Camera Club
Camera Art Circle (Bombay, India)	Norfolk (Va.) Photographic Club
Camera Club of Ottawa	Photographic Society of San Francisco
Cleveland Central Y.M.C.A. Camera Club	Pictorial Photographers of America
Erie Camera Club	Regina (Canada) Y.M.C.A. Camera Club
Fort Dearborn Camera Club	Saginaw (Mich.) Camera Club
Golden Gate Miniature Camera Club	Schenectady Photographic Society
(San Francisco, Calif.)	Seattle Photographic Society
Japanese Camera Club (San Francisco, Calif.)	Telephone Camera Club of Manhattan
Los Angeles Camera Club	Toronto Camera Club
	Washington (D.C.) Pictorialists

Standing of Clubs

Large Clubs Advanced Class

Los Angeles Camera Club	22
Camera Club of Ottawa	19
Fort Dearborn Camera Club	13
Montreal Camera Club	10
Pictorial Photographers of America ..	9
Photographic Society of San Francisco	7
Miniature Camera Club of New York .	3
Telephone Camera Club of Manhattan	3
American Society of Cinematographers	1

Small Clubs Advanced Class

Erie Camera Club	5
Monterey Peninsula Camera Club	4
Baltimore Camera Club	2
Japanese Camera Club	2
East Bay Camera Club	1

Large Clubs Amateur Class

Photographic Society of San Francisco	32
California Camera Club	8
Schenectady Photographic Society ...	6
Miniature Camera Club of New York..	5
Golden Gate Miniature Camera Club..	4
Los Angeles Camera Club	3
Camera Club of Ottawa	1

Small Clubs Amateur Class

Hamilton Camera Club	11
Washington Pictorialists	11
Cleveland Central Y.M.C. Camera Club	3
San Jose Camera Club	3
Monterey Peninsula Camera Club	2

(Continued from Page 345)

left is somewhat unconvincing, and we could wish that the small cloud behind the trape was not there.

Data: Composite print from two negatives. Figure: 9x12 cm. Agfa Plate; Agfa F.6.3 Anastigmat; 1/10 sec. at F:8, on E.K. Portrait Pan., in Wellington M.Q. Borax; by two 500 W lights; Sky: same camera and lens; 1/50 sec. at F:11, on E.K. Portrait Pan., in D-76; daylight late in afternoon; with K-2 filter; Composite prints on E.K. Opal A; copy negative on E.K. Commercial; final print on E.K. Opal Q, gold-toned.

An explanation of the function and rules of these competitions will be sent free on request, or they may be found on Page 600 of the December issue.—Ed.

The fact that your name is included in the lists below acknowledges receipt of your prints and signifies that they were included in the judging.—Ed.

Advanced Competitors

Edward Alenius, Jamaica, N. Y.
 Jack Arnold, East London, S. Africa
 Edward Bafford, Baltimore, Md.
 H. C. Benedict, Berkeley, Calif.
 E. W. Blew, Whittier, Calif.
 W. H. Boyes, Montreal, Canada
 J. W. Campbell, Montreal, Canada
 P. J. Croft, Montreal, Canada
 M. Desai, Bombay, India
 Fred M. Doudna, Washington, D. C.
 Eldon L. Eby, Santa Ana, Calif.
 Christine B. Fletcher, San Francisco, Calif.
 *W. P. Grayston, Montreal, Canada
 Samuel Grierson, Brooklyn, N. Y.
 Stanley Harrod, Toronto, Canada
 N. S. Horton, Montreal, Canada
 W. B. Hughes, Little Rock, Ark.
 William A. Ims, Erie, Pa.
 Thornton Johnston, Toronto, Canada
 Stanley R. Jordan, San Francisco, Calif.
 *H. F. Kells, Ottawa, Canada

Russell King, Montreal, Canada
 Dr. K. Koike, Seattle, Wash.
 Sophie L. Laufer, F.R.P.S., New York, N. Y.
 *James S. Lawshe, Los Angeles, Calif.
 Paul W. Macfarlane, Claremont, Calif.
 W. E. Mackintosh, Linthicum Heights, Md.
 Paula K. Morse, New York, N. Y.
 Neil Wayne Northey, Loma Linda, Calif.
 A. T. Roberts, Toronto, Canada
 Helene Sanders, A.R.P.S., New York, N. Y.
 *John Schiede, Jr., Richmond Hill, N. Y.
 Alajos Schuszler, Brooklyn, N. Y.
 *R. Owen Shrader, Pasadena, Calif.
 Norman P. Smith, Toronto, Canada
 Dr. Max Thorek, F.R.P.S., Chicago, Ill.
 Leo Tiede, Santa Ana, Calif.
 F. D. Wadia, Bombay, India
 Claude J. Williams, Los Angeles, Calif.
 Victor Yamakawa, San Francisco, Calif.

*Denotes prize winners.

Amateur Competitors

Ethan Allen Andrews, Jr., Baltimore, Md.
 W. F. C. Anderson, Ottawa, Canada
 G. D. Aydtlett, Norfolk, Va.
 David N. Barrows, Norfolk, Va.
 D. M. Bender, Milwaukee, Wis.
 Hans Bothe, Riverside, Calif.
 Roland Calder, Berkeley, Calif.
 Lloyd J. Cartwright, Saginaw, Mich.
 J. Fjord Christensen, New York, N.Y.
 John Clements, New York, N. Y.
 Raymond B. Collier, San Francisco, Calif.
 Roslynn J. Cowen, Carmel, Calif.
 A. B. De La Vergne, Denver Colo.
 Gordon Ethington, Fullerton, Calif.
 T. E. Euler, San Francisco, Calif.
 James R. Evans, Ocean Beach, Calif.
 Edward D. Fernex, Bronx, N. Y.
 *Helen M. Forster, San Francisco, Calif.
 Harold Guthman, Chicago, Ill.
 George G. Hand, New York, N. Y.
 Johanna E. Heim, San Francisco, Calif.
 Ernest F. Henry, Washington, D. C.
 H. Glenn Hogue, Ellensburg, Wash.
 R. P. Hotis, Washington, D. C.
 Dr. E. E. Hutshing, San Francisco, Cal.
 Delbert E. Jack, Berkeley, Calif.
 Thelma R. Kent, Christchurch, N. Z.
 Ernest W. Kestner, Schenectady, N. Y.
 Helji Larusson, Reykjarik, Iceland
 C. J. Laughlin, New Orleans, La.
 R. N. Law, Santa Ana, Calif.
 Samuel Y. Lebowitz, Baltimore, Md.
 Charles Lord, Regina, Canada
 Louis Luh, Washington D. C.

J. R. Macdonald, Toronto, Canada
 Mrs. Elizabeth M. Mackintosh, Linthicum Heights, Md.
 Eleanor MacLean, New York, N. Y.
 M. Moskowitz, New York, N. Y.
 Stratton C. Norcross, Lakewood, N. J.
 Paul Eloff Norine, Denver, Colo.
 F. A. Northrup, Greensburg, Kansas
 *Don Kirby Oliver, San Francisco, Calif.
 C. E. Peterson, Oakland, Calif.
 L. J. Peterson, Westfield, N. Y.
 Albert Reho, Niagara Falls, N. Y.
 Frank X. Reilly, Pottsville, Pa.
 F. L. Rogers, San Francisco, Calif.
 Louis Schink, New York, N. Y.
 Lawrence Schreiber, Cleveland, Ohio
 George Semonsen, San Francisco, Calif.
 *L. H. Shaw, Schenectady, N. Y.
 H. E. Sheffield, Cleveland, Ohio
 *Alex Silverberg, Cleveland, Ohio
 L. Charles Smith, Washington, D. C.
 A. D. Sweet, San Francisco, Calif.
 Henry K. Tanaka, San Francisco, Calif.
 F. C. Ward, St. Joseph, Mo.
 Freda Ward, St. Joseph, Mo.
 Henry Washburn, Santa Cruz, Calif.
 Edgar W. Weinberger, Brooklyn, N. Y.
 William C. Weldon, New York, N. Y.
 Walter T. Welisch, Jr., Seattle Wash.
 Morris G. Westerkam, Baltimore, Md.
 E. F. Wheeler, Bristol, Conn.
 Morgan W. Wickersham, Washington, D. C.
 *Dr. Michael Wishengrad, New York, N. Y.
 *Denotes prize winners.

Club Notes

Camera Craft Traveling Salons

Information on the Camera Craft Traveling Salons has been presented to our readers in a haphazard, patchwork fashion, because of the fact that what was originally planned as a minor service grew so rapidly that we were forced to expand

our original intention and devise new plans as we went along. These exhibitions have proved astonishingly popular not only as shows of high quality, but as the basis of club meetings devoted to print analysis, since the comments which appear on the face of the mounts provide a start-

ing point for such discussions. Therefore we are giving below a detailed explanation of the function and organization of these exhibitions so that full information will be available to all.

Five awards are made each month in each of the two classes of the Camera Craft Monthly Competitions. Each four months the forty accumulated prints are uniformly mounted, the comments which have been written regarding them are pasted on the front of the mount, and these prints then become one of the groups of the Camera Craft Traveling Salons. From this it is evident that three exhibitions become available each year. The exhibitions will be sent to any responsible organization requesting them, the only cost involved being the carrying charges to the next destination. This amount is always small since so many clubs have asked for the exhibitions that they never have to travel far in one jump. The exhibitions are circulated under the following plan: At the present writing 86 clubs have requested the shows. These are divided into six geographical divisions. Division 1, includes the Pacific Coast; Division 2, the Middle West; Division 3, Michigan and Ohio; Division 4, Pennsylvania, and the Southeastern States; Division 5, New York; and Division 6, the New England States and Canada. As each new exhibition becomes available a schedule is made up routing it through two of the above geographical divisions, after which it is returned to this office for cleaning up and is routed through a second two divisions, then again returned for cleaning, and routed through the two remaining divisions, completing its travels. It takes approximately one year for a show to travel through two divisions, so in all, the shows are each on the road about three years. Since three new shows become available each year, it works out so that each club on the list will receive about two exhibitions a year.

Three months in advance of the date on which a new schedule begins, a tentative schedule is made up and each club in the schedule is notified of the tentative dates assigned. Any necessary adjustments in the tentative schedule are made and

the revised schedule is published in this magazine a month in advance of its beginning. In this way we are sure that a schedule is fully acceptable before announcing it. Very little difficulty is experienced in making up a schedule, since a questionnaire is sent to each club requesting the shows, which when filled out gives us the information necessary to the drawing up of a schedule that will meet the desires of the clubs. From what has been said it should be evident that each of the 86 clubs which have requested the shows will automatically receive each exhibition at the time it is routed to the division in which that club is included, without any further effort on the part of the club. New exhibitions start on their rounds in March, July and November of each year. We hope that the clubs already receiving these shows, as well as any new clubs which may wish to do so, will understand the necessity of our adhering strictly to the system of circulation outlined above, in order to avoid confusion, and unnecessary expense for carrying charges. This means that exhibitions can only be sent to new clubs or those already in the listing by including them in one of the regular schedules for the division in which they are located.

Below we give the first schedule for Group V, which goes first to Divisions 3 and 6.

Schedule for Group V 1935

Arizona Pictorialists, Prescott, Ariz.,
June 20-25.

Division 3

Chicago Camera Club, Chicago, Illinois,
July 1-30.

Lansing Camera Club, Lansing, Mich.,
Aug. 2-8.

Gary Camera Club, Gary, Illinois, Aug.
10-26.

Miniature Camera Club of Detroit, Detroit, Mich., Aug. 30-Sept. 11.

Detroit Edison Camera Club, Detroit, Mich., Sept. 13-20.

Cleveland Photographic Society, Cleveland, Ohio, Sept. 24-Oct. 7.

Cleveland Central Y.M.C.A. Camera Club, Cleveland, Ohio, Oct. 9-18.

Portage Camera Club, Akron, Ohio, Oct. 21-Nov. 3.

Canton Photographic Society, Canton, Ohio, Nov. 6-19.

Dayton Photographic Society, Dayton, Ohio, Nov. 21-23.

Camera Club of Cincinnati Cincinnati, Ohio, Nov. 27-Dec. 10.

Photographic Society of Cincinnati, Cincinnati, Ohio, Dec. 12-27.

1936

Camera Associates of Huntington, Huntington, W. Va., Jan. 2-15.

Nashville Camera Club, Nashville, Tenn., Jan. 18-24.

Camera Club of Richmond, Richmond, Va., Jan. 29-Feb. 10.

Division 6

Hartford County Camera Club, Hartford, Conn., Feb. 13-16.

Camera Associates of Boston City Club, Boston, Mass., Feb. 19-Mar. 4.

Boston Y.M.C. Union Camera Club, Boston, Mass., Mar. 6-19.

South Shore Camera Club, Quincy, Mass., Mar. 23-Apr. 5.

Greater Lynn Camera Club, Lynn, Mass., Apr. 8-15.

Concord Camera Club, Concord, N. H., Apr. 20-29.

Portland Camera Club, Portland, Me., May 2-17.

Camera Club of Ottawa, Ottawa Canada, May 23-June 5.

Hamilton Camera Club, Hamilton, Canada, June 9-22.

Regina "Y" Camera Club Regina, Sask., Canada June 26-July 2.

Pictorial Photographers of Victoria, Victoria, B. C., Canada July 8-15.

The Pittsburgh Convention

Mr. V. E. Johnson sends us the following interesting report of the Pittsburgh convention.

The Second Annual Meeting of the Photographic Society of America was held at Pittsburgh on April 6th and 7th with headquarters at the Webster Hall Hotel. Some 50 members, representing 28 camera clubs attended the business sessions, while on Sunday the delegation from Ohio, led by Ralph D. Hartman, increased this number to 150.

The delegates came from far and near, the prize for distance going to Louis Fleckenstein who, with his wife, journeyed all the way from Long Beach, California. Every walk of life was represented, lawyers, doctors, engineers, salesmen, chemists, artists, teachers and editors. There were high caste photographers and buck private amateurs, film makers and film burners, snap shooters and Fraprie-Thorek-Fassbenders. A cross section of America brought together by the fascination of photography as an art or a craft, as a vocation or an avocation. It was an impressive demonstration of the place that this old but ever new method of self expression has assumed in the lives of a vast number of people.

With Dr. Max Thorek in the chair, the business before the Convention was handled with expedition and precision. The Committees that have labored so long and so hard in planning the Society's future activities presented reports that were concise and complete. Their unanimous acceptance committed the Society to many lines of endeavor, chief among them the following:

A membership drive with an objective of 1,000 members, to be conducted by committeemen from various geographical sections.

The establishment, at the earliest feasible time, of a Photographic Journal of high grade pictorially and technically, and with broad general appeal.

The continuance of the Print Interchange and the establishment of a traveling show consisting of some 300 prints in groups of about 30.

The establishment of sections within the Society to further the interests of particular classes of photographers, such as cinema, aerial, scientific and color.

The establishment of photography as an art by fostering permanent photographic exhibitions such as those now on display in the Metropolitan Museum of Art and the Rosenwald Industrial Museum.

The general papers were exceptionally interesting. Outstanding perhaps was that by Nicholas Haz who, assigned the subject, "Why Photography is an Art", re-

fused "to break down an open door", and talked instead about the fundamental constituents of a picture. Or again, that by Rowland S. Potter who, discussing, "Let's Be Technical", pointed out that no photographer becomes truly great until his technique is automatic.

Altogether the Convention was unqualifiedly a success and an inspiration to those who attended. Throughout the meetings was the consciousness that here was a group of earnest men and women who came at no little personal expense and inconvenience to further the cause of photography.

The Pictorial Forum

Students of Adolf Fassbender, have created a new group to be known as "The Pictorial Forum", and have undertaken "to advance pictorial photography as an art; to provide for social contacts and an interchange of ideas between active workers, and to achieve recognition by the excellence of their work".

The idea was conceived at an after-class coalition when students, about to graduate from one of Mr. Fassbender's courses, realized the disadvantage of losing contact with him and each other. Once suggested, the idea of a permanent group was eagerly accepted by students and former students alike. An organizing committee was quickly formed and, at a dinner meeting of forty eligibles at the Hotel Martinique in New York City on April 24th, the organization was firmly established.

The Pictorial Forum is not a camera club; it will have no constitution or by-laws. It is rather a common meeting-ground where enthusiastic workers will be able to discuss their problems with congenial friends to the hearts content.

Unique, but carefully thought out conditions assure its permanency. Membership will be by invitation only; and only to those whose pictures have been accepted by National or International Salons. Furthermore, to insure continued activity, there is a rule that each member must have two different prints accepted each year by a recognized Salon. Management has been left to an Advisory Council of three; dues will be nominal;

dinner meetings will be held monthly; and wives or husbands (actual or to-be) of members will always be welcome!

High standards have been set but far from being content to achieve them, every member has resolved to surpass them.

It is interesting to note that the Photographic Society of San Francisco, now one of the most active clubs in the country, came into being in very similar fashion, it being organized and continued by students from the classes of Mr. P. Douglas Anderson. There is much strength and real purpose in such organizations and we look forward to great things from the Pictorial Forum.

East Bay Camera Club

Arrangements have been made to have all future meetings, Demonstrations, Lectures, etc., in the Auditorium of the Alden Branch Library, 52nd and Telegraph, Oakland, Calif., meeting every second and fourth Thursdays, with Field Trips the fourth Sunday each month. Visitors are welcome.

Action Photographs Wanted

Four Wheel Drive Auto Co., Clintonville, Wis., is in the market for stirring action photographs depicting Four Wheel Drive trucks in operation. For photographs which are usable in the company's advertising high commercial rates will be paid. The photographs may be taken in any location—logging in lumber countries, hauling in desert lands, trucking across country. Ruggedness of the truck is a feature which should be brought out. Whenever the truck is present in news photography involving nationally important events premium rates for photos will be paid. All photographs should preferably be 8 by 10 inches, glossy finish, and contrasty enough for magazine reproduction. Communicate direct with the advertising department of the factory.

Bridgeport Camera Club

Camera enthusiasts also will be interested to know that a new camera club has been organized in Bridgeport, Connecticut. Three meetings have already been held.

The club is known as the Bridgeport Camera Club. Meetings are held on the 2nd and 4th Thursdays of each month.

The first meeting of each month to be devoted to a speaker and the second meeting to photographic print competition between members. Until further notice meetings will be held at the University Club. Anyone interested is cordially invited to attend.

Correspondence is invited from all Camera Clubs. The acting secretary is M. Reed, 566 Wilmot Avenue, Bridgeport, Conn.

Huntington Park Camera Club

The most encouraging sign we know of regarding the present health and future prospects of photography is the large number of new clubs that are springing into being all over the country. Above is the name of one of the latest additions to the family of photographic clubs. Officers are: President Abe Levin, Vice-Pres. F. B. Friedel, Sec. and Treas., K. L. Thiem. For further information address Mr. Bob Decker, Publicity Director, 6508 Pacific Blvd., Huntington Park, Calif.

Hamilton Camera Club

And still another new club announces itself, under the above name, in the city of Hamilton, Ohio. This club is concentrating as fully as possible upon improving the photographic ability of its members and to that end has eschewed the formalities of organization, and is meeting informally without officers or other trappings. For information address Herbert A. Webb, Ross at D St., Hamilton, Ohio.

Club Changes Name

Henceforth that active and progressive young organization up to now known as the Golden Gate Leica Club, will go forward under the name of the Golden Gate Miniature Camera Club. It was felt that this broadening of the club title would make it more fully descriptive of the membership, activities, and intentions of the organization. If the club continues its present fine progress the new name is assured of a proud future.

Miniature Camera Club of Oakland

We wouldn't be surprised if the Miniature Camera Club of Oakland held the record for club growth in a community of the size in which it is located. At the club's first annual dinner, held May 28th,

over 100 were present to enjoy the splendid talk given by Mr. John Paul Edwards, and to view the exhibition of members' prints on the walls. The club meets on the last Tuesday of each month at the Alden Public Library, 52nd and Telegraph. Interested parties may obtain full information from President Edward H. Towler, Central Bank Building, Oakland, Calif.

Death of Mrs. Alice Walmsley Chambers

The staff of this magazine wishes to extend to Mr. Frank V. Chambers, publisher of **The Camera** its deepest personal sympathy upon the passing of his beloved wife, Mrs. Alice Walmsley Chambers, at the family home, 7321 Boyer Street, Mount Airy, Philadelphia, Pa., on Saturday evening, June 1, 1935, following an illness of about six months in which a heart affection with attendant complications resulted in a gradual weakening. Services were held at the home on Tuesday, June 4, followed by interment in West Laurel Hill Cemetery, Philadelphia. She is survived by her husband, Frank V. Chambers, publisher of **The Camera**; one son, Dr. Francis S. Chambers of Elizabethtown, Pa.; two grandchildren, Francis S. Jr. and Miss Virginia H., also of Elizabethtown, and three sisters, Miss Emma S. Walmsley of Philadelphia, Mrs. Mary Deane of Montclair, N. J., and Mrs. Harriett E. Booth of Derbyshire, England.

New Address of Canton Photographic Society

The Canton Photographic Society announces its new address as Schaefer Block, Suite 334, 136, West Tuscarawas Ave., Canton, Ohio. All correspondence should be addressed to A. E. Allesbouse, Sec. at that address.

Indianapolis Awards

At the Second Annual Invitational Club Exhibit of Pictorial Photography, held at the John Herron Art Museum, Indianapolis, and sponsored by the Indianapolis Camera Club, the following awards were made.

The Warren Monk Trophy, awarded to the Photographic Society of Philadelphia.

Honorable Mentions to the Chicago Camera Club, and the Fort Dearborn Camera Club.

In this exhibition a group of selected clubs each send in 16 prints and the awards are made to those clubs presenting the best groups of prints.

Chicago Camera Club

Mr. Joseph H. Simons, for many years a valued member of the Chicago Camera Club, was taken by death on April 29, 1935.

At its annual meeting in May, the Chicago Camera Club elected officers to serve for the next two years. The new officers are: President, William C. West; Vice-president, Will A. Kelly; Treasurer, William J. Becker; Secretary, Raymond B. King.

As this is written, the Chicago Camera Club is negotiating for a loan collection of prints from Germany. If secured, the prints will be hung during July in the club-rooms at 137 North Wabash Avenue.

Missouri Photographic Society Holds Annual Exhibition

This year's important event for the Missouri Photographic Society, the annual exhibition of work by members, some of them internationally known amateurs was held at the St. Louis Artists Guild, May 20 to May 31. Well known St. Louis artists and critics were judges, Mary Powell of the St. Louis Art Museum, Fred Carpenter, artist and teacher of the Washington University Art School, and T. Kajiwara, artist. The exhibit aroused considerable local comment and newspaper interest.

An interesting practice at the monthly meetings of our group this year has been member exhibits judged by local artists who have come to the meetings and given their opinions. Knowing little of the camera mechanics, their opinions of the artistic merits of the photos has been of great interest.

New Club

A new addition to the rapidly growing number of miniature camera clubs is The Miniature Camera Club of Maryland which was organized on April 22nd at a dinner held at the Lord Baltimore Hotel. To date two meetings have been held and the attendance has averaged twenty-five or more although the club has not been successful in securing permanent quarters as yet.

Officers of the organization are:

Mr. George Rowe, President; C. H. Brown, Vice-president; Charles L. Wolf, Secretary-Treasurer, Room 417 U. S. Post Office & Court House Bldg., Baltimore, Maryland.

New Club

The Green Briar Camera Club at Chicago was organized recently and meets each Wednesday evening at the Park club rooms at 2650 Peterson Ave. In February a constitution was adopted and the following officers elected for the current year: Harry C. Lassen, president; Ragnar Hedenvall, vice-president; Albert L. Malik, treasurer, and Evelyn Waterloo, secretary.

An enthusiastic group has been in attendance since the first meeting, the membership being approximately fifty at present. Sessions have been characterized by round-table discussions, demonstrations and visits from persons well known in the photographic field, including Dr. Max Thorek and Mr. Ralph Fallert. First studio night in March brought a large turn out, and Green Briar Park open house night on April 10th provided an excellent opportunity for the club to exhibit.

Considering the progress that has been made, the members are confident of having a ranking club very shortly. Plans are being formulated for an active summer season.

The Miniature Camera Club of New York

Mr. F. Allen Morgan, A.R.P.S., spoke on "Covering the Photographic Assignment," and showed 100 of his photographs of varied subjects, at the meeting on May 15th.

On May 22nd Mr. William Howard Gardiner spoke on "Pictorial Photography with the Miniature Camera," and discussed his method of working while he showed a large collection of his beautiful prints.

A demonstration of Eastman's Bromide Papers was given by Messrs. L. M. Bockman and R. K. Metzger on May 27th.

Mr. Nicolas Muray gave an informal talk on June 5th, his subject being "Color Photography," he thrilled his audience with his gorgeous color photographs.

An exhibition of landscapes by Dr. Koike was held this month, and a collection of "Baby Pictures," by Miss Frances Ludovici will be on view during June.

Outings for the summer are being organized in the form of open-air classes, which will include Landscapes, Marines, Flowers and Trees, Candid Snapshots, Street Scenes and Outdoor Portraiture. Individual instructors will be assigned to each of these classes.

California Camera Club

On May 16th the California Camera Club held its annual dinner, with Mr. Ansel Adams as guest speaker. The dinner was well attended and the presidents of all photographic clubs in this vicinity were present. Mr. Adams' talk was both interesting and entertaining, and the club's

new president, Mr. A. G. Vialotte, in charge of a gala occasion for the first time, proved a fine master of ceremonies.

Spokane Camera Club Traveling Exhibition

The Spokane Camera Club has prepared a traveling exhibition consisting of fifty prints. Any clubs interested in receiving this show should communicate with Mr. E. J. Kirkpatrick, secretary, 725 Hutton Building, Spokane, Wash.

Biological Photographic Ass'n. Meets

The Fifth Annual Convention of the Biological Photographic Association will be held at the Stevens Hotel, Chicago, Illinois, September 12, 13, and 14. Further details and copies of the program may be had by writing Mr. Ralph P. Creer, Chairman of the Program Committee, Box 266, Hines, Illinois.

Notes and Comments

Fotoshop, Inc.

Responding to many inquiries Fotoshop, Inc., of 136 W. 32nd St., and 4015 Broadway, New York City, states that its 16 mm. supersensitive panchromatic cine film, listing at \$3.75 per 100 feet has a speed rating equivalent to that of other makes of supersensitive pan film in outdoors. For indoor movie making an extra flood lamp is recommended. A post card will bring complete data on cine products offered by the Fotoshop organization.

Retouchers' Laboratories

Mr. J. McDaniel is an expert retoucher of long standing and out of the wealth of his experience he has created three extremely helpful aids to the retoucher that merit the attention of every photographer. **Neg-Tooth** is a new retouching medium that is free from acid and residue, and which will not "ball up" or "slick out" even on the back of a film or glass plate negative. This product may also be used on ferrotyped or plain glossy prints when these need to be worked on with pencil,

and if applied over etched areas of a negative it will restore the transparency preventing the etched area from printing out white. **Shadow-Dye** is a quick water soluble, harmless dye which can be simply diluted and applied to the negative in any density. This is a wonderful help in holding back areas which print too dark, and there is no tendency for the dye to streak or shale out on the surface. It can be entirely released or washed out by soaking for a few minutes in a weak solution of ammonia water. With a little practice one can hold back even very small areas without showing a sharp line. We wish especially to call the attention of **Minicams** to **Neg-Cleaner** a powder preparation for removing finger prints and all other surface soil from film and plate negatives. The problem of avoiding dirt finger prints, etc., is one of the most difficult confronting the users of small cameras, and a good clean print cannot be obtained unless this is done. Consequently this product should prove to be a real boon, for the cleansing work does no show even when the negative is enlarge

many times. The firm also manufactures the McDaniel-Perfect-Etcher, an etching tool of excellent quality, designed to avoid scratching, and offers a retouching service to the portrait and commercial trade. For full information write to Retouchers' Laboratories, Box 388, Rock Island, Ill.

Photographic Lens Company

If you are looking for a lens, new, used or reconditioned, do not fail to inquire of the Photographic Lens Company, 152 W. 42nd St., New York, N. Y. This firm specializes in buying, selling and exchanging lenses, and have some remarkable bargains to offer.

Old Film Purchased

Photographers who have a large supply of old film or negatives on hand may get rid of these for real money by communicating with the Superior Smelting and Refining Company, 505 Fifth Ave., New York, N. Y. It does not matter whether the film are in good condition or not, for they are not purchased because of the image they carry but because the price of silver is now high, and a photographic emulsion can be made to yield that metal.

Instoscope for Graflex

Graflex users will be gratified to learn that an Instoscope Exposure Meter is now available that is made specifically for use with the Graflex camera. Up to now exposure meters showed the "stop" and "time" necessary for an exposure, but the tension and curtain openings could not be read directly from the meter. With the new Instoscope for Graflex all of the factors which go to make up an exposure can be read directly from the meter, resulting in increased accuracy and a marked saving of time. Write to Willoughby's, 110 West 32nd St., New York, N. Y., for full information or see the new meter at your dealers.

Photography Plays Important Role in Medical Dept. of U. S. Navy

Chief Pharmacists Mate Robert M. Beard of the U. S. Navy tells an interesting account of the photographic work now being performed at the naval hospitals and medical schools. Special laboratories have been organized solely for the

purpose of photographic work used in connection with instruction and routine work of the department. Their function includes making photographs of gross pathological specimens, photographs of patients for clinical records—motion pictures of operating room and surgical procedure, and clinical methods; motion pictures of microscopic life; photos of buildings, classes and personnel for record and publication; photomicrographs from gross work with micro-tessar lenses to high power and oil immersion lenses giving as much as 5000 magnification—much of this is done in **natural color**.

So important is this work that the Board of Post Graduate Education at Washington has provided for a scholarship to be given to Chief Mate Robert M. Beard for a course of instruction in commercial and portrait photography at the New York Institute of Photography, 10 West 33rd St., New York City. Mr. Beard states that this training will enable him to carry the work of his department much further. As an expert he will be able to instruct and direct the students who work under him, and bring about an even greater function and usefulness of the department.

This experience of Mr. Beard's, points out Mr. S. F. Falk, president of the New York Institute of Photography, is but another example of the innumerable, diversified uses to which photography in its various branches, may be applied. The New York Institute of Photography is presently printing a booklet describing their courses and methods of instruction with suggestions of fifty or more ways the alert, expert photographer can find profitable work. Anyone interested in developing a talent for photography will want a copy of this booklet, furnished free, upon request.

Trowbridge Transfer Press

The Trowbridge Transfer Press was designed to provide the utmost in mechanical reliability, ease of operation, and, most important of all, the finest of results. That such a combination has been achieved in a press which can be sold at an extremely low price is of remarkable advantage to the purchaser.

Mechanically, the Trowbridge Press is very rugged, yet an instrument of extreme precision. It is built to withstand the hardest kind of use, having a frame of heavy iron castings, the finest of bronze bearings, and cadmium plated steel rollers. The rollers are two inches in diameter and sixteen inches in length with a very sensitive adjustment with which any pressure may be obtained from the very lightest to a pressure heavier than could conceivably be used in bromoil transfer. The driven roller is actuated directly by the handle while the free roller is so arranged that it cannot possibly bind.

In operation the Trowbridge Press is simplicity itself. No elaborate "sandwich" is necessary, perfect transfers being accomplished with nothing more than a bristol board support for the print and transfer paper.

No unnecessary "gadgets" are to be found on the Trowbridge Press—which makes for simplicity and reliability. No desirable feature has been left off—which makes for perfection in the transfer.

The experienced transfer worker needs but to see and use the Trowbridge Press to appreciate its merit and the beginner will find it a most capable instrument which will do much to simplify the mastery of one of the most delightful of photographic printing processes.

For full information write to W. H. Trowbridge, 4724 Panorama Dr., San Diego, California.

Help for the Professional

Mr. Southworth has long been an outstanding example of a really successful photographer operating in a medium sized city. He is now prepared to offer photographers specific instruction and assistance in coping with the difficulties confronting their business at the present time. Mr. Southworth's methods have been tested in practice, and are of proven value. Write to Southworth, Photographer, Box 448, Union City, Tenn.

Columbus Photo Supply

The progressive Columbus Photo Supply Company offers complete service and supply for all manner of photographic

activities. Real bargains in used equipment, exceptional fine grain processing for the minicam, Dufaycolor processing, a full line of all the latest equipment and materials give some idea of the service offered by this firm. Its members are experts in their field and are always anxious to help with any photographic problem. Whatever it is you may want Columbus Photo Supply Company, 146 Columbus Ave., New York, N. Y., stand ready to serve.

Tuma-Gas in New Quarters

It is good to learn that the consumption of photographic products of quality is increasing, for that means that photographers are taking their work seriously—surely a good sign. This desirable condition is indicated by the fact that Tuma-Gas, Inc., manufacturers of the fine contact and enlarging papers of that name have found it necessary to move to larger quarters in the building which they have occupied for some time. They may now be found in Room 812, 1170 Broadway, New York, N. Y. Tuma-Gas is sold only on direct order to the above address, and the firm is now offering a bargain trial order of one dozen assorted sheets at \$1.00 for 8 by 10 inches and \$2.00 for 11 by 14 inches. Try it out, we are certain that you will not be disappointed.

Exposure Guide for Movie Makers

The General Electric Company have recently issued a Handy Pocket Exposure Guide for Home Movie Makers. This gives much useful information about photographing with photoflood lamps, and will be sent free to those who address the General Electric Co., Sales Promotion Dept., Nela Park, Cleveland, Ohio.

Slow Speed Exposure Device for the Leica

A new attachment which gives shutter speeds from 1 to $\frac{1}{8}$ second exposures on the previous models of the Leica has recently been announced.

The new slow speed device is especially useful to owners of Leica cameras other than the model F, which has these slow speeds built into its mechanism, as it

makes possible slower automatic speeds by simply attaching the device to the camera over the shutter release button. Owners of Leica models A, C, D, and E will welcome this device because the slowest speed their shutters are capable of, automatically, is 1/20th second. Many have had their cameras converted into the model F because of these slower speeds. With this device now available, conversion is not necessary.

The slow speed shutter device is small, compact, and durable. It gives the speeds of 1, $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{1}{8}$ second. The regular shutter speed dial is set for "time," after which the device accurately gives the slower speeds. Provision is made on the device so that a Leica cable release may be used in conjunction with the release button.

Leica camera owners who desire the slower speeds, yet cannot afford the model F camera, should see this new attachment at their local dealers, or write to E. Leitz, Inc., 60 East 10th St., New York, N. Y., or Spindler and Saupee, Inc., 86 Third St., San Francisco, 811 West Seventh St., Los Angeles, Calif. The price is \$17.40.

Bee Bee Distance Meters

The firm of Burleigh Brooks has advised us that although the first shipment of Bee Bee Distance Meters sent to dealers were inspected and found accurate, a subsequent, more thorough examination indicated a slight, constructional defect. Mr. Brooks, in conformity with his well-known policy in such matters, is eager to replace these meters and suggests that purchasers return them for that purpose.

Mendelsohn Speedgun

New in the Camera Craft advertising section this month is the announcement of S. Mendelsohn, manufacturer of a photoflash synchronizer, of the professional or press type. The Mendelsohn apparatus, known as the Speedgun, is not of the common type which operates on "bulb" or "open and shut." It is a patented electrically operated device which opens the shutter of the camera at the precise fraction of a second when the light from the

burning photoflash lamp is at its brightest.

When photoflash lamps were first sold in this country it was found that the speed of 1/50th of a second at which exposures could be made when one depended entirely upon the rapidity of burning of the aluminum foil was entirely too slow for action shots as used in press or commercial work. The introduction of the Mendelsohn Speedgun completely revolutionized the business of making photoflash exposures so that today scarcely a single newspaper exists which does not have one or more Mendelsohn Speedguns in daily service.

At \$12.50 three types of Speedguns are offered. (1) for Speed Graphic and other cameras equipped with between-the-lens shutters; (2) for Graflex and similar focal plane shutter cameras, and (3) for Contax and Leica cameras. Complete details will be sent upon inquiry to S. Mendelsohn, 202 E. 44th St., New York City.

The Rolleiflex Salon

One of the important photographic events of 1935—the Rolleiflex Salon—has recently ended. Hundreds of photographs of unusual quality were submitted by amateurs from all parts of the country. Although the values of the prizes offered, the elimination of the customary entry fee, and the outstanding reputation of the one-man jury, Colonel Edward Steichen, were factors which undoubtedly stimulated the entrants to high standards of achievement, the photographs displayed, owe in no small measure, their pictorial beauty and their critical sharpness to the performance and unusual characteristics of Rolleiflex Cameras, the square format and large size of the pictures produced, and the ease with which Rolleiflex photographs may be enlarged.

The first prize was awarded to Alajos Schuszler of Brooklyn, N.Y. His picture entitled "A Rare Sight in New York" was aptly named, for it is indeed a rare sight to witness in that highly mechanized city the closely juxtaposed heads of two horses immersed in a drinking fountain. The enlargement has a practically contact print quality and was consummated with a Brooks Enlarger. Visitors at the Salon

concurred whole-heartedly with Colonel Steichen's selection. Mr. Schuszler should have an ideal opportunity of adding to his collection of Rolleiflex shots on the eighteen-day Caribbean Cruise on the S/S Pastores on the Colombian Line, which was the first award.

A merchandise award of \$75.00 was given to Mr. Alex J. Krupy, of Chicago, for his picture "Force"—a powerful and graphic interpretation of machinery. Fred Chadde, also of Chicago, won the third prize, of \$25.00, for his "Girl With Goat", a spontaneous, happy and unposed picture of a lovely child with her pet, and John Coleman Burroughs, of Los Angeles, was awarded a Rolleicord Camera, as the prize for his aerial subject, "Meteor Crater, Arizona".

The Salon was held at the recently enlarged showrooms of Burleigh Brooks, in New York City, which were admirably adapted to the best possible display of the prints.

Winning prints will be submitted for the Rolleiflex Golden Book, the most elaborate edition of this series ever produced, and makers of selected photographs will receive in addition to the Salon awards, sums ranging from \$10.00 to \$20.00, as well as a complimentary copy of the book, when it appears.

Hawaiian Supreme Court Declares Licensing Ordinance Unconstitutional

In a recent test case brought by Mr. Fritz Kraft of Honolulu the Hawaiian Supreme Court ruled that the licensing ordinance which has been in force in the territory for some time was invalid. The opinion stated: "Act 103, L. 1933, in so far as it prohibits an uncertified photographer from practicing photography for compensation or holding himself out as competent to practice it is an unconstitutional exercise of the police power in that it imposes an unwarranted restriction upon the right of the citizen to engage in an innocent calling that bears no reasonable relation to the health, the morals, the safety or the general welfare of the public." This decision is of far reaching importance to both the amateur and professional photographer, for it places a fairly

definite limitation upon the scope of licensing ordinances that will stand as a precedent for any future litigation. It should act as a check on the all too evident tendency to draw up bills of this kind with more and more drastic provisions, and to direct those provisions against the amateur as well as the professional photographer. The bill recently introduced into the Pennsylvania Legislature, and discussed in our April Correspondence Dept. is a case in point.

The 1935 Winona School

The Photographers' Association of America makes the following announcements regarding its annual courses in photography conducted at Winona Lake, Ind., better known as "The Winona School." The resignation of Pirie MacDonald, New York City, a Trustee for 14 years, has been regretfully accepted, and the following appointments have been made by the Executive Committee: 3-year term—George W. Harris, Washington, D.C.; 2-year term—Felix Schanz, Fort Wayne, Ind.; 1-year term—George J. Kossuth, Wheeling, W. Va. Messrs. Harris and Schanz have been Trustees since the inception of the School. Directors of the Portrait Course for 1935; Messrs. Harris, Schanz and Kossuth. Directors for the Commercial Course for 1935: J. W. Scott, Baltimore, Md.; James M. Caufield, Louisville, Ky.; Grant Leet, Washington, D.C., Dean of the School; William H. Towles, Washington, D.C. Instructor-in-Chief, Portrait Course: Mr. Towles. Instructor-in-Chief, Commercial Course: Mr. Scott.

The Portrait Course will commence August 5 and close August 31. Tuition fee is \$65.00-\$50.00 to former students who wish to repeat the Course. The Commercial Course will commence July 15 and close July 27. Tuition fee is \$40.00. Students may take either Course or both. While a limited amount of experience is desirable for the Portrait Course, students taking the Commercial Course must be either practicing photographers or employees with at least one year's experience. Practicing portrait photographers or portrait operators who desire to learn commercial photography will be accepted

for the Commercial Course. Only a limited number of students will be taken for either Course, and reservations are now being accepted. They should be sent, with down-payment of \$10.00 for each course desired, to the Executive Manager, Photographers' Association of America, 501 Caxton Bldg., Cleveland, Ohio. The down-payment applies against the tuition fee, balance of which is payable on arrival at the School. Booklet containing full information will be sent on request to the Executive Manager.

The Commercial Course, entirely different from last year, warrants some additional mention. Mr. Scott will be assisted by experts in each of the following subjects (into which the Course has been divided) who will be brought to Winona to teach their methods in the fields in which they specialize:

Architectural photography, exterior and interior, 2 days.

Commercial set-ups in the studio, 1 day.

Illustrative photography, 2 days.

Coloring, commercial retouching, block-out, commercial etching, 2 days.

Copying, legal photography, night photography, 1 day.

Printing, developing, enlarging and general commercial work, 3 days.

Tricks of the trade, short-cuts, etc., 1 day.

It is believed that by having specialists handle each of the above the 1935 Commercial Course will be the most comprehensive intensive course ever offered and it is easy to see why beginners cannot be accepted. The Executive Manager of the Association will gladly advise any prospective student as to his acceptability for this Course on receipt of a frank statement of previous experience.

Stratosphere Explorer Inspects Graflex Camera Equipment

Captain A. W. Stevens who will be in command of the giant stratosphere balloon, Explorer II, when it ascends into the inky heavens this summer, visited the



Folmer Graflex Corporation plant in Rochester, New York recently. His time was principally occupied in checking over the equipment which is to be included in the second Stratosphere enterprise sponsored by the National Geographic Society—U.S. Army Air Corps.

Again, full responsibility for the reading of the many scientific instruments and record apparatus is to be vested in Graflex Factograph cameras manufactured by the Folmer Graflex Corporation. It will be recalled that six of these Graflex Factograph cameras recorded the film records obtained from the initial flight—records which were over 90% complete in spite of the terrific crash marking the end of the flight of 1934.

With new safety provisions incorporated throughout the balloon and gondola under construction, it is expected that the 1935 flight will return to earth with full and complete records and scientific data. The battery of Graflex Factograph cameras selected by Captain Stevens will "read" the scientific record of the flight, permanently preserving it on film strips.

Pictured above is Captain Stevens, together with Mr. C. H. Harper, Vice-President of the Folmer Graflex Corporation, and Mr. E. S. Hineline, Chief Engineer of the company. The camera under inspection is one of the six Graflex Factograph cameras which participated in the 1934 Stratosphere Flight and which is to make its second ascent into the skyways when the flight of 1935 has begun.

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Fifth International Salon, San Diego

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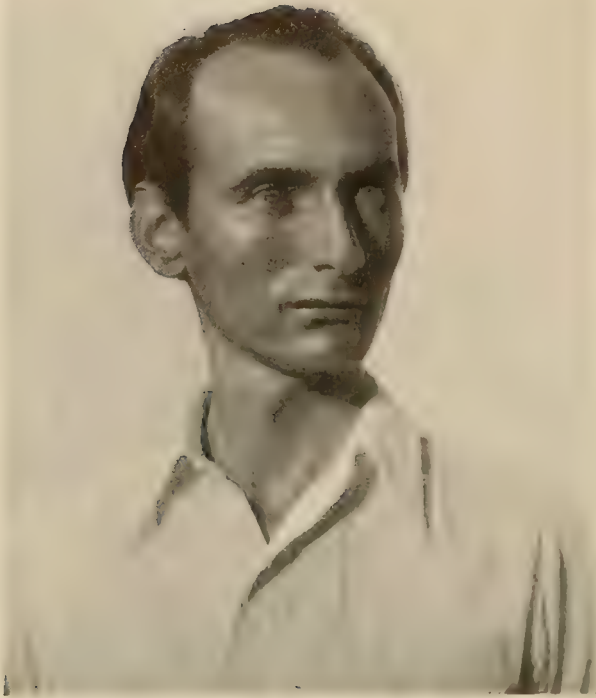
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by

WILLIAM MORTENSEN

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"George Dunham." Straight Print.

CHAPTER HEADS

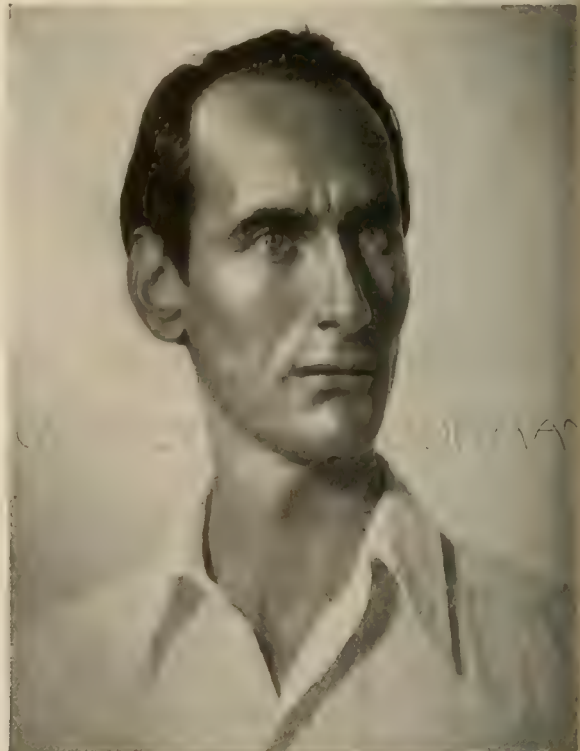
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"Witch Tree"

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Fifth International Salon at San Diego

Prints ---- Prints and Prints

Fred R. Archer

Being a Few Rambling Notes About the Fifth International Salon at San Diego

BY the time the reader sees these lines, the California Pacific International Exposition at San Diego will have opened with a blaze of lights and color, thousands of people will have entered the gates, crossed the beautiful Cabrillo bridge, passed the California building and entered the great court between the huge outdoor organ and the Fine Arts Building. They will have gazed with various emotions over the large lily ponds and up at the grand central arch; at least they tell me that there will be an arch there, but a short three weeks before the opening date, it was just getting under way. Piles of lumber and sacks of cement were all about with myriads of workers hurrying here and there. No one would ever think that the great exposition would ever open on time but expositions are all that way up to the last day and they seem to open on time so I know this one will.

There is an innovation at the San Diego Exposition. Mr. John Sirigo who has the photographic concession has decreed, "Hands off the Amateur". Shoot all the pictures you want. The more the merrier and there will be no charge for the privilege.

To the left of the main court and just west of the Fine Arts building is a beautiful building designated as the Palace of Photography. Here is housed one of the finest Salons of photography ever assembled; the Fifth International Salon sponsored by the Camera Enthusiasts of San Diego, the San Diego Pictorialists, and the Exposition.

I have been asked to write a review of the show, but I tackle it with a great deal of hesitation realizing that anything I may say will be from one man's observation and will be more or less relative. I might say I

liked a certain beautiful nude. Someone would be sure to disagree with me for the very term "beautiful" is relative. (Some like 'em fat, some like 'em thin). So this will not be a picture to picture review.

On Saturday morning, May the 11th, we, the jury of selection for the Pictorial section entered the Exposition grounds and took the bus over the bridge to the Hospitality Building where the prints were to be selected for hanging. Here in a large auditorium amidst a sea of prints the Salon committee chairman, Miss Ruth Kilbourne greeted us.

There were prints, prints and more prints. Prints were standing against the wall, prints were against backs of chairs, prints were on the chairs, prints were against the chairs and row after row of prints were on the floor with aisles left between the rows. Imagine some 3500 prints spread about.

Mr. James Doolittle, who was judging in the commercial classification, looked over the myriad prints submitted to the Pictorial group and remarked "They should all be hung", and he was right. The standard of the prints sent in was so high that all but a few, relatively speaking, were qualified to hang in any show. Never have I seen as uniformly high quality as was evidenced throughout the group.

I hope this is a criterion of what is to follow. The technical work so long neglected is at last being perfected by the individual worker. No longer is a beautiful photograph being displayed in a mediocre print.

Those who entered prints in the Salon and did not have them hung need not feel badly as the ratio of acceptance was about one in ten. The judges were given a stiff job as space allotted for the Pictorial section would comfortably hold three hundred and fifty prints. The judges selected 399 and would liked to have hung more. But that is neither here nor there, the main thing is that San Diego has a show and what a show!

There were a great many nude studies submitted. Someone once said that photographing the nude was like spanking a 16 year old girl. Its lots of fun but it doesn't do any good. I hardly agree with the first part as I have always found it hard work. The latter part is okay. It doesn't do any good in a great many instances, and San Diego was no exception but the jury was tough. There were so many side view, kneeling in supplication or grief poses, that the marked resemblance was very noticeable. Why were so many poses nearly alike? There were a few successful ones of this type published in last years magazines. Could this be the reason or is it a result of the depression, that period in which we all felt droopy. Surely the droopy days are ending and we should be up on our toes doing things.

Maybe it is because there are more people tackling the nude in photography, and that this pose is the easiest to do. It hides so much and the really beautiful figure is so hard to find.

The nude is the hardest subject to handle (not literally, but photographically) and the really successful photographer of the nude succeeds mostly because he throws out most of his negatives knowing which few are good enough to retain. It is regrettable that there are so few who realize this as witness the naked nudes submitted to most shows—and hung.

The nude should be used with story telling value, with drama or with



"Boulder Dam"

Fletcher O. Gould

Fifth International Salon at San Diego



"Taos Pueblo"

Ernest Knee

Fifth International Salon at San Diego

a decorative sense of beauty. The human form is beautiful (sometimes) but the straight anatomical, gymnastic, contorted photograph, seldom.

But all this digression is getting away from what I started out to tell, and anyway there are some good nudes in the show and "Stella" is on the midway.

You know they gave medals at San Diego. I do not approve of medals. It becomes discriminating and puts too much upon the jury of award. When a jury looks over some 3000 good prints. . . .

Whoa! I am digressing again.

Here is what you have been waiting for.

Approximately 3500 entries were received for the several classifications and they came from 32 different countries.

In the professional portrait class, the honors were as follows:

Gold Medal to Edmund Drummond Young, Edinburgh, Scotland for "Miss Jessie Brown".

Silver Medal to Irving Lippman, Hollywood, California for "John Barrymore".

Bronze Medal to William Fraker, Hollywood, California for "Negro".

Commercial Classification:

Gold Medal to Valentino Sarra, Chicago, Illinois for "Another News-boy". Photographed for J. Walter Thompson Co. for Union Central Ins.

Silver Medal to Charles Kerlee, Los Angeles, California for "photo for Desert Inn" of Palm Springs.



"Fishing Boat"

Gustav Selden

Fifth International Salon at San Diego



"Schonheit am Wege"

Franz Kunzl

Fifth International Salon at San Diego

Bronze Medal to Harold Halliday Costain, Scarsdale, N.Y. for "Drilling a Sixty Ton Block of Rock Salt" made for the International Salt Company, Scranton, Pa.

Let me digress here for a moment.

In contrast to the great number and high quality of the prints in the Pictorial class, the other classes submitted were weak both in numbers and quality. The out and out commercial photographers were evidently not impressed with the idea of exhibiting or were, as it often happens, too pressed with bread and butter work to give thought to it. The resultant poor showing was and always will be inevitable unless the commercial men take a lesson from the amateurs notebook and improve their quality.

The medalists in the commercial section were conspicuously pictorialists who have graduated to the commercial rank.

The professional portrait exhibit suffers from the same pains—why won't the professional portraitist improve and keep abreast of the times.

The lack of something, shall we call it spirit, on the part of the professional men discourages salons from having any classifications for them which is to be deplored inasmuch as these periodical shows would be the impetus and stimulation for the improvement they need.

In the natural color transparencies section:

Gold Medal to E. Millington, Leicester, England, "Leisure Hour."



"Winter Blossoms"

W. C. West

Fifth International Salon at San Diego

Silver to Amy Wild Siber, Torina, Italy, "Roses and Lillies".
Bronze to G. F. de Roo, Dubbeldam, Holland, "On the Banks of the Lake".

Photographic Miniatures in Color:

Gold Medal to Misses Spencer and Stolte, Alameda, California, "A Portrait of a Little Girl".

Silver to Misses Spencer and Stolte, Alameda, California, "Portrait of Little Girl and Dog".

Bronze to Mrs. J. W. Jarrett, Fullerton, California, "Portrait of Ruth Heron".

Now as I was saying, relative to the Pictorial section, when a jury looks over 3000 good prints (that is, mostly good) and they were mostly good at San Diego, and selects 399 to hang, those 399 must be GOOD. Now pick out the number one, two, and three best with real conviction that you are right—.

We did and we feel that we were right.

In the Pictorial Section, the Gold Medal went to Erno Vadas of Budapest, Hungary for "Ganse" and rightly so for this in the opinion of the jury was the outstanding print of the show.

It is a picture which in modern parlance is a "Natural". A picture of geese coming over a hill path with a beautiful back lighting and an appeal to all who see it.

I have seen this picture reproduced in a New York Paper, roto-gravure section, in Vanity Fair and other places; recognition of its popular appeal. I have heard people say it was a snapshot. What of it? If the maker saw it is as picture and had the presence of mind to snap it, more power to him and let's hope for more snap shooters.

I personally feel that he knew this location, waited for the light and had the goose-girl (I like to feel it was a goose-girl, its more romantic) shoo or herd them (whatever they do to geese) over the path or perhaps he knew that they were to be brought down this path and waited for them. Who cares? The fact remains that it is a picture. Truly one you could hang on the wall and live with; which, after all, is the test of a good picture. Although to hang on the wall, I would prefer a different surface of paper. It is a glossy print and there were many glossies, entered, especially from Hungary and Czechoslovakia.*

These large glossy prints seem to have created a sensation from the reports of recent salons. The idea is not new; these workers have been making glossy prints for some time but seemingly are just being noticed. A great many American workers have submitted glossies to salons no more recently than two years back.

A movement starts, is little noticed, gains impetus, reaches forward and broadens and is suddenly noticed with a start. So the glossy is in our salons. I can't help but feel that it is not the glossy prints but the pictures that are creating the interest.

I have nothing against glossy paper and if Mr. Vadas would give

* Examples of this work may be seen on the cover and on page 371 of this issue. Mr. Abramovici is a Rumanian worker, but his picture on page 375 may serve as a further example.—Ed.



"Blumenvertrau Ferin"

Aurel Abramovici

Fifth International Salon at San Diego

me a copy of this picture, I can assure you it would be welcomed to a place on my wall. If any worker wants to make his prints on glossy paper, why should anyone care? Maybe he likes those delicate gradations in the shadows that the glossy papers certainly do give. Some other worker may prefer Bromoil, Fresson, Gum, Carbro or any other process. Who cares? (Maybe this article should have been called "Who Cares"?) The final result of the photographers effort—the picture—is what really counts.

Most of these Hungarian and Czechoslovakian prints have a delightful quality of realness. They are mostly genre pictures. Pictures of people doing things, seemingly totally unconscious of their being photographed. A kind of candid camera photography, perfectly done with good composition and technique. We can look for more of this type of picture in future shows as the small camera with its fast lens has taught us that we can get many delightful things that if posed would be totally lost.

One thing that I have noticed in recent salons, is that amongst European workers the soft focus lens is creeping back. I wonder what this presages. The quality of the soft focus lens was always preferable to the diffused enlargement. That is if the lens was handled rightly. The fuzzy-graph of earlier days was never pleasing but perhaps was a necessary cog in the wheel of progress. The crisper image of the recent technique made possible perhaps by the advent of the miniature camera, where it must be good technique all the way or sink, surpasses all the soft focus pictures of yesterday and I made a lot of them too.

The silver medal went to Jose Orteze Echague for "Mujur Mallorquina", a beautiful Fresson print. Echague is the only man to have five prints in the show, but Echague is Echague.

The Bronze Medal went to Dr. Harry Wright of Philadelphia, Pennsylvania for "A Life is Saved".

Imagine a few years ago trying to photograph a group of doctors and assistants around the operating table during an operation. The new equipment, lens and films have certainly opened up many new fields. I wonder if they put one of those germ-proof bags over the camera. You know there must have been a camera bug present—punning again. This must stop.

These three prints were the pick out of twenty-one submitted by the various judges as the pick of the bunch for consideration for the medals. The other eighteen received honorable mention.

In this salon you will find many subjects variously treated. There are many snow scenes, but the snow is snow not whitewash. It evidently was a busy and photographically profitable winter in the snow country.

There are also touches of humor here and there, a thing that is lately evidencing itself more and more amongst photographers.

The method of judging was as follows: The prints were spread out, each juror was given a package of small cards, one color to each juror, with which he cast his vote by laying one on each print he wanted to vote for. Three or more cards voted the print in. There were five judges selected by the committee as being qualified by long experience and ability. The Pictorial Section jurors were:



*Night View of the
Palace of Photography
California Pacific
International Exposition
Fred R. Archer*

Mr. Edward P. McMurtry of Pasadena, California, Pictorialist of long standing.

Mr. Harold A. Taylor of Coronado, California, Pictorialist; a juror who votes only after careful consideration, then sticks by his guns.

Mr. J. B. Larrinaga, artist, who thoroughly understands and sympathizes with photography.

Mr. Reginald Poland, Director of the Art Museum at San Diego, whose thorough knowledge of Art and his keen sense of the human element in pictures makes him a valuable man on the jury. And—Yours Truly.

The judges did not go around together. Each man did his own balloting and the jury came together only for the awarding of the medals.

Each juror voted I know on a picture as a picture; its interest, technique, and method of presentation, and disregarded his own personal dislikes as much as was humanly possible. A person's own likes are bound to play a slight part in his voting even though unconsciously, this being the reason for the five jurors.

Each juror realized that a salon is to be viewed by thousands of people with varying emotions and ideas and that, after all, the art for art's sake show is giving place to one that is interesting to the general public. The audience must be pleased but at the same time, the show must be good and the San Diego show is good; the judges admit it.

Photographing Wild Animals At Night

William V. Ward

ONE of the most fascinating sports in the field of all photography is the picturing of wild animals at night by means of a camera set up in such a way that the animals will take their own pictures. Many photographers who are interested in natural history work as a side line have thought about this night self-portraiture of animals, and quite a few have tried it at some time or other, but most of them have become so discouraged with the difficulties involved that they have given it up. The greatest handicap has been the problem of procuring or making some device which will synchronize the camera shutter and the flash charge; and which will trip the shutter, set at from 1/200 to 1/1000 of a second, at the point of greatest brilliance of the flash charge which burns for 1/25 of a second. Several devices have been developed to do this which, while satisfactory, are either too complicated or too expensive, or both. Examples of such synchronizing flash guns are: that made by Dr. Spencer Atkinson, of Pasadena, California, and that made by Mr. William Nesbit, of Short Hills, New Jersey. The latter device is on the market and is quite satisfactory, having proved itself in photographing the big game of Africa and India; but it is expensive and the adjustments are delicate. If a simpler, less expensive outfit were developed, a new field of photography would be opened to many camera naturalists.

The arrangement herein described and illustrated perfectly synchronizes the flash charge with either a Graflex focal plane shutter or a Compur type shutter, yet it is far more simple than any of the well known devices. It requires no complicated "flash gun", mouse trap springs, or high frequency spark coils. No synchronization device is needed because any focal plane shutter, or any between-the-lens shutter, is in itself equipped to do the work. The author, while claiming the idea as his own, acknowledges his indebtedness to Mr. Nesbit for developing the pill box flash charge and to Dr. Atkinson for certain additions to a Graflex.

Suppose we now look at the apparatus, to see how it works. The Nesbit pill box flash charge is made from a one and one-half inch round druggist's pill box. In it is placed a photographer's squib fuse (made by DuPont); the yellow paper is removed from the fuse, and its connecting

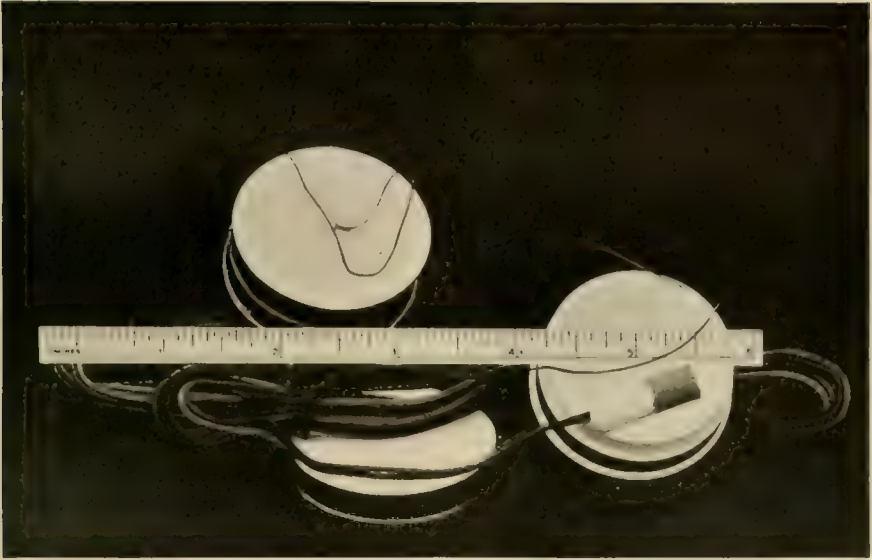


Fig. 1—The Pill Box Flash Charge

Finished powder charge, and empty pill box with photographer's squib fuse. Each charge contains one-half ounce of flash powder and a squib fuse.



Fig. 3

Method of attaching string from powder box to curtain key of Graflex

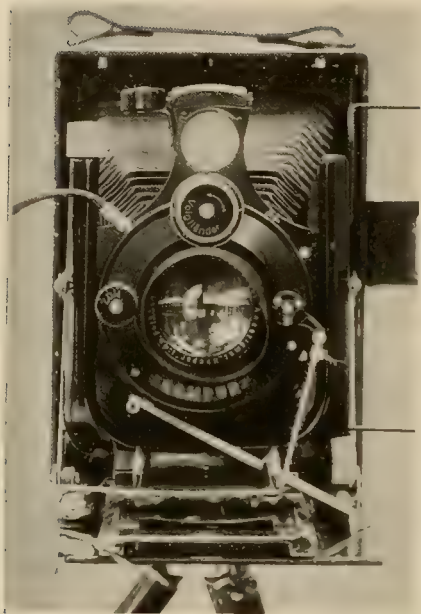


Fig. 2—Attachments to Compur Shutter
*Tripping lever is held by rubber band
 while cocking lever is held down by the
 string from the powder box.*

wires pushed through a hole in the bottom of the box. The box is then filled with one-half ounce of normal grade flash powder, and the cover put on. But before the cover is placed on the pill box, a string with a knot on the end of it is run through the cover with the knot on the inside of the box; this leaves a string coming out of the top of the box, and the two connecting wires coming out of the bottom. Then the whole pill box is immersed twice in melted paraffin to protect it from moisture, and the flash charge is completed (see fig. 1).

The attachment to a Compur shutter (or one of that type) is nothing more than a rubber band which runs from the shutter-tripping lever to the bed of the camera, thus holding this lever down. The shutter-cocking lever is held down tightly by a the string coming out of the pill box flash charge (see fig. 2). When the flash charge explodes, the cover of the pill box is blown off releasing the string and permitting the shutter to operate.

The attachment to a Graflex focal plane shutter is equally simple. A piece of stiff steel wire (a knitting needle) four inches long is bent into a flat curve with a hook at one end and an eye at the other. The hook fits over the curtain key of the Graflex, and the eye receives the end of the string from the powder box. This string runs directly from the powder box to a hook on the Graflex and thence to the eye end of the heavy wire (see figs. 3 and 4). The string is stretched very tightly between the powder box and the end of the wire, the shutter set for 1/1000 of a second, and then the shutter lever is pressed. This causes the mirror to fly up to release the focal plane shutter. But the shutter is not released because the string and wire attached to the curtain key do not allow the key to

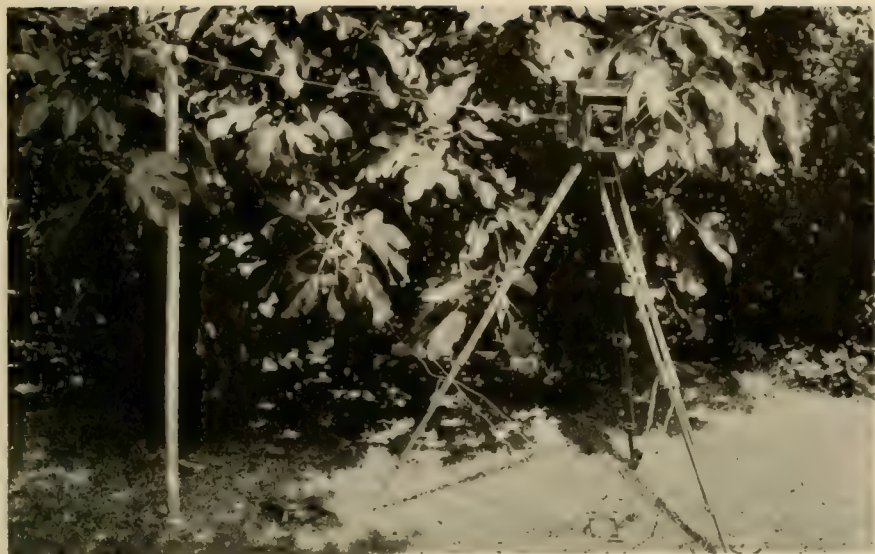


Fig. 4—Camera Set Up with One Flash Charge

When the flash charge explodes, its cover is blown off, releasing the shutter of the camera.

revolve. When the flash charge is exploded, its cover is blown off, the string is released permitting the curtain key to revolve, and the aperture of the curtain passes over the film while the powder is burning. An exposure of $1/1000$ of a second is thus made in the middle of the flash which lasts for about $1/25$ second, and synchronization is achieved.

When the camera is set up, a stake holding the powder box is driven into the ground about five feet to one side of the camera and a little behind it. The shutter releasing string runs directly from the powder box to the camera (see fig. 4). The two firing wires which come out of the powder box, when touched across a number six dry cell, or radio "C" battery, will fire the charge. These wires are directed to the battery where one of the wires is cut and the firing switch wires inserted (see fig. 5). The firing switch is a small knife switch screwed to a stake one foot long, and has about fifteen feet of double lamp cord attached to connect it in series with the battery and flash charges. This stake with the switch fastened to it is driven into the ground close to the spot where the animal is to be photographed, and a string is stretched from the bait to the handle of the switch. When the bait is pulled, the switch is closed, simultaneously firing the powder and tripping the camera.

Many variations of the above principle may be made to fit different situations in wild life photography. Sometimes it is best not to tie the bait directly to the firing switch cord, but rather, to stretch the firing cord across a game trail, allowing the animal in walking along the trail to touch

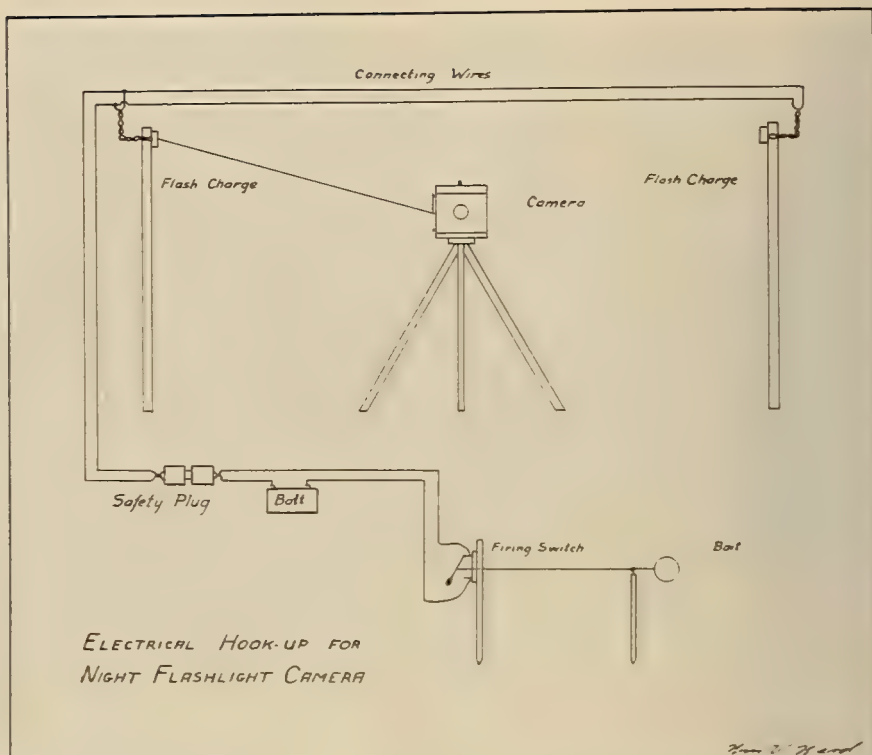


Fig. 5
Electrical Hook-up For Night Flashlight Camera.

the string and close the switch. In this case the length of the firing cord should be no longer than the depth of focus of the lens at the lens aperture being used, else the animal might trip the switch from a point which would be out of focus.

In most cases better lighting is achieved by using two flash charges and placing one on each side of the camera. This eliminates the dense shadows which often are caused by using only one charge. In order to use two charges, a stake with a flash charge fastened to it is set up on each side of the camera. The two charges are wired in parallel and will go off together (see fig. 5). If desired, a second camera may be attached to the second flash charge, in the same manner as to the first, and two pictures thus be obtained.

It must be remembered that flashlight powder is dangerous, and extremely so when confined in pill box flash charges. The greatest caution should be taken to see that no short circuit is caused which would explode the powder charges while one is setting them up—the results easily might be fatal. In order to eliminate this danger, a safety plug is inserted in the connecting wires just ahead of the battery (see fig: 5). This plug is not



William V. Ward

pressed together until the last moment when everything has been connected and the photographer is ready to leave.

The author is aware that several successful experiments have been conducted in wild life photography with photo-flash bulbs, and that very excellent pictures have been obtained with them. However, two disadvantages present themselves: first, that the bulbs are not as brilliant as the flash powder and consequently several must be used which makes the expense greater; second, that the bulk and weight of the flash bulbs is greater than that of flash powder, an important consideration when packing on foot or horseback. Reflectors, too, are necessary when using photo-flash bulbs and this adds to weight and bulk. Few naturalist-photographers are so fortunate as to be able to take pictures of wild life in their own back yards, and hence must go on long trips to get what they want. As such trips call for equipment which is light in weight and simple in operation, this method of night self-portraiture is ideal because there are no moving parts to get out of order or heavy flash guns to carry. Equipment in addition to the camera does not exceed the flash charges, yet the hook-up is "sure fire" and dependable.

Print Quality- How To Get It

Haden Hankins and Wray Selden

HOW many times have you heard the statement "It lacks print quality" and realized that the remark was true but still you were unable to put your finger on the elusive "why"?

It is our purpose in this, and in the article to follow in the next issue, to point out the most common faults in print-making, as well as to give a general background of information regarding the medium. We don't claim to have evolved any magic formulae or discovered any hitherto unknown photographic secrets. We believe that the only secret in making a successful print, a print which has that beautiful luminous quality peculiar to good photography, is good technique and a sound knowledge of the medium.

The first great mistake of most beginners is that they usually work backwards. They do not realize the importance of the relation between negative contrast and paper contrast. As a consequence, they develop all their negatives a definite, fixed time and then try to fit a paper to the negative they have produced. To do this successfully, they must carry a complete range of contrasts in the particular paper surface they intend to use. For many of us, this is too expensive, to say nothing of the uncertainty of the final result; and the experienced worker proceeds differently. *He develops his negative to fit the particular contrast of the paper he intends to use.*

In order to do this consistently, the photographer must have a thorough working knowledge of all the factors which govern the production of a satisfactory negative. The importance of correct exposure in making the negative has been so often stressed that we do not feel it necessary to go into that here. We shall assume that the negative has been correctly exposed.

There are several factors which govern negative contrast: subject contrast, the type and character of the emulsion used, the formula with which it is developed, and, most important, the length of time the film is developed. It is by varying this developing time that the contrast of



Fig. 1

any particular brand of film may be most easily controlled. With any selected formula, the longer the film is developed the greater will be its contrast. Conversely, subjects of too great an initial tone range or contrast may be compressed to fit the range of your paper by curtailed development. Of course, there are negative developing formulae which give greater or less contrast; but to those of us using small cameras the importance of fine grain prohibits the use of any but fine grain formulae and we must depend on somewhat longer development to secure greater contrast.

When we come to make the print, we find a great variety of material available. By far the most popular is that which, from the fact that the image becomes visible only after development in an appropriate solution, is known as developing out paper, or abbreviated, D.O.P. paper. Paper of this type, such as Azo, Apex, Vitava, P.M.C., Bromide, Brovira, Velour Black, Charcoal Black, etc., is more generally used than any other, largely because of the ease and certainty of its manipulation.

If the most satisfactory results are to be obtained it is essential that the operator be familiar with all of its peculiarities and characteristics.

Just as in making a negative, it is better to decide on one brand of film and stick to it, so you will always be advised to choose one brand of paper and stick to it until you have mastered all of its peculiarities. We know you won't follow this advice literally, for we have never yet known a photographer who wasn't constantly trying out new brands and surfaces of paper. (One of our friends recently sent away for a new brand of paper with which he fondly hopes to get solid gold prints, or



Fig. 2

something of the sort.) However, the advice is especially good to beginners. Choose any paper you like but learn how to make good prints on that paper before you switch to some other brand. Master your material. You can get superb results with any brand now on the market provided you handle it properly.

There are many different makes and grades of paper to be had, but they all have certain properties in common. These, in order of importance, may be said to be:

- 1st—Contrast
- 2nd—Speed or sensitivity
- 3rd—Image color and quality
- 4th—Paper surface and color

Contrast

Contrast is the property which most often spells the difference between success and failure in printing. This may be most easily explained by saying that it concerns the behavior of printing paper when it is exposed to light of varied intensity.

Let it be assumed that a sample of paper is exposed for a standard length of time to a light of gradually increasing intensity, a fresh section of paper being exposed to each increase in light strength. If the light has been properly adjusted, the paper upon development will show a range of tones starting at the lightest perceptible grey and extending to the deepest black of which the paper is capable. The contrast, or tone range, of the paper may now be found by noting the ratio of the light intensities which produced the two tonal extremes. In other words, if the strength of light which produced the deepest tone is 40 times greater



Fig. 3

than the light which produced the faintest, then the paper has a contrast or tone range of 1 to 40.

The application of this in actual practice is at once evident if it is realized that in printing, the negative, because of the difference in density of the image, delivers to the paper light of varying intensity, the extent of which variation determines the contrast or tone range of the negative.

For example: a negative which delivers in printing 40 times more light through the clearest portions of the shadows than it does through the densest portions of the highlights, will have a contrast of 1 to 40. If the print from such a negative is to reproduce the full range of tones, from almost pure white in the highlights to deep black in the shadows, it is obvious that the negative must be printed on a paper having a corresponding tone range, since no other grade of paper will respond in the required manner to the range of light intensities transmitted by the negative.

Suppose that paper having a contrast of 1 to 30 is used to print a 1 to 40 negative. If the printing exposure is such as to give a slight tone in the highlights, the shadows, which have received 40 times more light than the highlights, will be blocked up, since they have received approximately one third more light than that needed to produce the paper's deepest tone.

On the other hand, if the exposure is such as to give a proper rendering in the shadows, the highlights, which have received only 1/40th as much light as the shadows, will be blank, chalky, and devoid of detail, due to the fact that the 1 to 30 paper requires at the light end of the scale at least 1/30th of the light used at the deep end of the scale.



Fig. 4

Figures 1, 2 and 3 illustrate this point. They are all prints from the same negative. In this case, the maker desired to make his print on a certain surface of paper which he had only in the normal grade. The negative material was Eastman Panatomic (a contrasty emulsion) developed for 25 minutes in a Glycin fine grain formula because an enlargement of $7\frac{1}{2}$ times was desired.

Figure 1 is a print from this negative on hard or contrast paper (short tone range), exposed for proper rendition in the shadows. You will notice that the highlights are chalky and blank. Figure 2 is the same negative printed on the same hard paper but exposed for proper rendition of the highlights. In this case, the shadows and darker portions are over-exposed and consequently black and devoid of detail. Figure 3 is the negative printed on the normal paper for which it was developed.

The next picture (figures 4 and 5) the maker wished to print on a paper surface of which he had only the medium grade on hand. The negative material was the same, Eastman Panatomic and it was developed in the same Glycin formula; but for only 15 minutes. Figure 4 shows the best possible print which could be obtained on normal paper while figure 5 shows the print made on the medium paper for which the negative was developed.

The average amateur as a rule does not find it possible to keep on hand a variety of contrasts in all the different paper surfaces he intends to use; and for this reason, it is absolutely essential that he develop his negative to fit the contrast of the paper he desires to use. It is easy to produce consistently negatives suited to a chosen grade of paper, provided the contrast scale of the paper is known beforehand; and the ama-



Fig. 5

teur, if he has achieved a fair amount of technical proficiency, should have little call for more than two degrees of contrast in any given paper.

Occasionally, however, it will be found desirable to alter slightly the contrast of the paper in use; and it appears possible to do this by taking advantage of the development peculiarities of Metol and Hydroquinone. This is due to the fact that Metol tends to develop a soft, detailed image of low density while Hydroquinone tends towards greater density and contrast.

In the common paper developers, these two agents are combined, usually in a ratio of one part of Metol to four of Hydroquinone; but this ratio can be varied and the contrast of a given paper slightly altered thereby.

There are several of these formulae, one in particular being Eastman D-64; and in most cases, they are arranged in two separate solutions, the first having a high concentration of Metol compared to the usual quantity used, and the second solution having a high concentration of Hydroquinone and little, if any, Metol. These two solutions may be used separately or in combinations of varying quantities of each according to whatever adjustment in contrast is desired.

Paper manufacturers appear to have no definite way of indicating paper contrast and a variety of terms are used for this purpose. Usually, however, long scale or low contrast papers are called soft or normal, while the shorter scaled or more contrasty grades are designated as hard, vigorous, or contrast. The intermediate grades are almost universally referred to as medium. In certain papers, however, the different grades of contrast are indicated by numbers as, for instance, Azo, in which the

figures 0 to 5 are used to designate six different degrees of contrast from 0 for the softest grade to 5 for the most contrasty grade.

Speed or Sensitivity

The next item of importance in the consideration of printing material is its speed or sensitivity to light. Upon this property depends the strength of light used in printing as well as the general illumination of the darkroom.

It is evident that the relation of the printing light intensity to the speed of the paper must be such that the average printing exposure will be long enough to allow of easy control and yet not so long as to take up too much of the operator's time. It is also obvious that while the brightest possible darkroom light is very desirable, this must not be of such strength and color as to cause fogging of the paper.

In contact printing, where it is possible for the light at short range to act directly upon the paper through the negative, no great amount of speed or sensitivity is needed and consequently papers designed for this purpose are comparatively slow. In enlarging, however, a great amount of the available light is lost from various unavoidable causes; and if the enlarging exposures are to be kept within reason, paper used for this purpose must be very much faster than that used for contact printing. Therefore, the average bromide paper is roughly about 250 times faster than the average contact paper.

This difference in speed, while naturally making the papers suitable for the processes for which they were designed, also necessitates the use of two different safelights if the maximum safe darkroom illumination is to be had. A comparatively bright yellow light may be used when contact paper alone is being handled but a light somewhat dimmer and of different color must be used with enlarging papers.

Wratten safelights are ideal for this purpose, as the operator can be sure that by their use he is getting the maximum in light without risk of fogged material. The use of these or similar standard makes of safe lights in darkroom lamps is strongly advised since there is always an element of uncertainty when makeshifts are used.

It should be pointed out that although differing greatly in speed, there is no reason why contact and enlarging papers cannot be used interchangeably if proper adjustment in the printing light is made. With a much reduced light, contact prints may be easily made on enlarging paper and enlargements are possible on contact paper if the enlarging light is very much increased or the normal exposure greatly prolonged. However, the exposures needed to make enlargements on contact paper with the average enlarging equipment are usually so long that negatives are very apt to be damaged by excessive heat.

In the matter of speed, D.O.P. papers are divided roughly into three classes; the fastest, as we have noted, is bromide paper, the next, projection paper, with about 1/10th the speed of bromide, and the slowest, of course, is contact paper.

As the name indicates, projection paper is designed for projection printing and it is the only one with which the beginner is likely to have trouble on the score of speed. The more rapid grades of this paper will

work quite well with an enlarger having lamps of moderate strength and a fast lens, but those grades which are designated as medium speed projection papers require an inconveniently long exposure unless high wattage lamps are used or only a small degree of enlargement attempted.

In selecting projection papers, therefore, it is well to inquire carefully into their speed and to regard with suspicion those grades which are described as being suitable for either enlargements or contact prints unless one's enlarging equipment is adequate to cope with them.

In the final analysis, assuming a correctly exposed negative, there are two fundamental rules which must be followed in order to achieve print quality. As we have already stated, the first is to develop your negative to fit the contrast of the paper you intend to use. In the next article we shall discuss the second fundamental rule.

(To be continued)

Aerial Snapshots

Stanley B. Clason

THE purpose of this article is to give the amateur photographer an idea of some of the problems of aerial photography and to suggest solutions for them.

Nearly any amateur camera having a lens with a speed of $f4.5$ or faster can be readily converted to aerial use if some method is devised to protect the bellows from the slipstream of the ship. As the problem of protecting the bellows varies for different types of cameras it is an individual problem that cannot well be covered in this article, so I will take up the problems of aerial photography assuming that a camera suitable for aerial photography is available.

The first problem encountered is the problem of composition. Many amateurs disregard composition in aerial snapshots with a result that their photographs are dull and incongruous. Of course, due to the short time that one has in which to compose a picture while in the air, it is impossible to observe all of the rules of composition. But the three rules outlined below should be observed if an interesting and pleasing picture is desired.

1. Perspective: Perspective is determined by the viewpoint from which the picture is taken. The laws of perspective can be found in any good drafting manual, so no attempt will be made to include them in this article. In general, it may be said that the viewpoint adopted by an architect in a perspective sketch of a building is the natural viewpoint for an



Fig. 1

oblique aerial photograph. To obtain this viewpoint the camera should be tilted at an angle of about 30 degrees below the horizon, when the plane is flying at an altitude equal to one half the distance between the camera and the object of principal interest. The tendency of the amateur is to photograph from too great an altitude with an excessive camera tilt which results in foreshortening and false perspective. The best time to obtain the proper viewpoint is just after the plane has passed the object. At this moment the photographer can shoot back at object and just miss the tail of the plane. Any inclination to turn the camera at right angles to the direction of flight should be avoided. Because when the camera is at right angles to the direction of flight the speed of the image across the focal plane is accelerated so much that it is very difficult to prevent the appearance of motion in the photograph. When the camera is pointed back at the object the speed of the object across the focal plane is at a minimum and motion can be stopped very easily, without extreme shutter speeds.

2. Balance: To secure correct balance in an aerial photograph the arrangement of the picture must be such that the principal object predominates, by having it centered in the picture. This does not necessarily mean the geometrical center but the point in the picture where the highlights and shadows form a proper balance to make the principal object predominate.

3. Background: About $\frac{1}{4}$ of the picture should be composed of a sky background. If the sky is not included, the picture will lack depth, because the horizon line is the vanishing point of the picture.

Figure 1 is a photograph that lacks in both perspective and balance.



Fig. 2

The perspective is lost because the picture has no vanishing point. The picture is out of balance because there seems to be no place in the picture where the eye will come to rest. If this picture had been taken from the opposite direction, so that the water (now shown in the foreground) formed the background—the picture would have been materially better.

Figure 2 is a photograph that has both good perspective and good balance. The peninsula in the center of the picture forms a predominating object. Its predominance is accomplished by its geometrical location and by a balance of highlights and shadows. The water in the background gives depth to the photograph and the horizon line forms a natural vanishing point for correct perspective.

The problem of exposure is not a difficult one in oblique aerial photography, if the photograph is made with the object moving obliquely across the focal plane; as suggested in this article under the problem of perspective. Ordinarily an exposure of $1/200$ of a second will stop the appearance of motion at an altitude of 600 feet or over. Of course, a shorter exposure will give a negative of sufficient density under normal lighting conditions if an $f:4.5$ lens is used at full aperture. While making the exposure the photographer should avoid leaning against the cockpit of the plane so that the vibration of the plane will not be transmitted through the body to the camera. The camera should be pressed tightly against the body to absorb as much vibration as possible.

One of the most important problems of aerial photography is haze elimination. Most landscape photographers are familiar with flat negatives that sometimes result from a small amount of mist in the air, even

though the mist seems practically imperceptible to the eye. The reason for this is that the mist absorbs the shorter waves to which the films are supersensitive and transmits the longer waves that are seen by the eye. The obvious way to prevent this is to use a filter that will cut out the shorter waves and transmit the longer waves. Of course, a panchromatic film should be used because panchromatic film has less sensitivity to the shorter waves and greater sensitivity to the longer waves than orthochromatic materials. The amount of haze present can be determined before the photographer goes in the air and he can, therefore, have his filter adjusted to the camera before the take-off. To determine the filter to be used, secure a view of the open landscape and notice at what angle above the horizon the grayish appearance fades into deep blue. If this angle is 30 degrees a K-2 filter should be used. If the sky is principally blue throughout and the view along the ground is quite clear, the choice should be either a K-1 or an Aero-1 filter. This is, of course, a very rough guide because the amount of haze increases directly with the altitude, but for altitudes between 600 and 1000 feet, which is a good range for amateur photographs, it will give sufficiently accurate results.

This article is, at its best, a very general guide to aerial photography, for the problems of aerial photography are so diversified that a detailed explanation of all of them is impossible. But if the amateur will consider some of the points set forth and then make every flight in the air a lasting lesson by a careful observation of conditions under which the pictures were made and check these observations with the results obtained, he will soon find it possible to have as high a percentage of good photographs from the air as he has on the ground.

Cinema Section

Edited by
William A. Palmer

Underwater Movies

HARDLY any summer vacation can be taken which does not in some way include water as a contributing factor to recreation. If the vacation be taken in the mountains or at the sea shore, the lakes, rivers, and surf furnish the background and subject matter for many rolls of cine film. No subject better than fishing, swimming, and diving can be found for the movie worker. Water sports combine human interest with pictorial appearance and graceful motion.

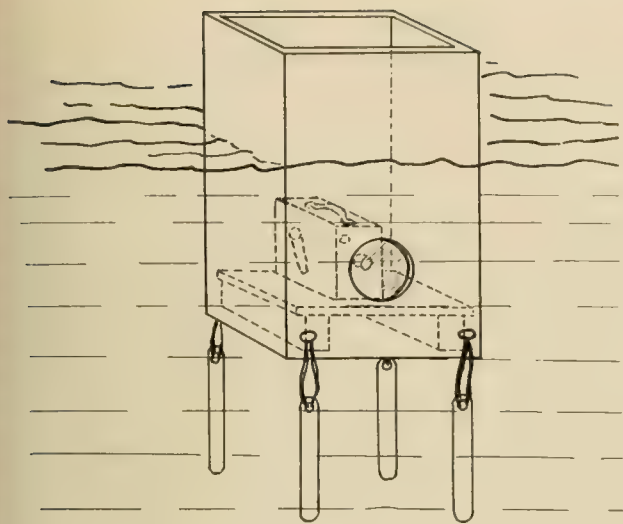


Fig. 1

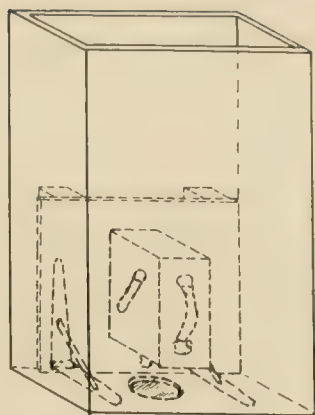


Fig. 2

Opportunities for filming above the surface of water are many. But when one is able to film under water, the opportunities are increased many fold. Underwater filming in tropical waters is tremendously interesting because of the peculiar and colorful fish and vegetation. In the ordinary swimming tank, movies taken below the surface are useful to round out the continuity of a diving sequence so that the form of the diver can be viewed in the final phase. The grace and beauty of a swimmers movements underwater are worth a place in anybody's vacation film.

Now to see the means by which underwater movies can be made. True submarine movies taken at a considerable depth would necessitate elaborate diving suits and a completely water-proof camera housing of costly construction. For the amateur filmer, however, the use of a device that is known as a "water glass" is entirely adequate. This device is similar to that used by south sea pearl divers to locate the position of the oysters. The principal of the "water glass" is to furnish a means of giving a view through the water undisturbed by the refraction of surface ripples. It is not necessary for the camera to be submerged far in the water. A view just a few inches below the surface is sufficient. To do this a box is used in which there has been put a plate glass window through which the pictures are taken.

Construction

Figure 1 shows the general arrangement for filming objects near the surface. A water tight box, open at the top, is weighted at the lower corners with sash weights in order to submerge it below the level of a round plate glass window in the side. The camera is mounted by the tripod screw on a board to which are attached two wooden cleats. This serves to keep the camera off the

bottom of the box and thus keep it from possible damage by water seepage. With the arrangement shown, one or two inches of water can accumulate in the box before it need be emptied. Furthermore, the camera and the board to which it is attached can be lifted readily out of the box for loading and winding and then replaced to occupy the same position with respect to the glass port hole.

The box should be made of 1 inch lumber, preferably redwood. The joints may be merely butted and screwed together with white lead or aquarium putty between. The main thing is that the box be rigid so that once the joints have been made water-tight, they will stay that way. After the box has been made, the joints can be given a coat of melted asphalt applied with an old paint brush. This should be done on the inside and outside of the seams and should result in a totally water-tight box.

The window for the camera's view can be made of an old piece of broken windshield glass and fixed in place by aquarium putty. The round shape is more difficult to cut than a square one, but is more easily kept water tight.

If one desires to film objects on the floor of the water body, the box can be constructed with the window in the bottom as shown in Fig. 2. In this case the board to which the camera is attached can be supported on end by two shelf supports from the Five and Ten. With the camera in this position it is necessary for the box to be completely water-tight, for slight seepage will run over the glass window and obscure the view. If two glass port holes are placed in the box, filming near the surface and directly down to the bottom can be done at will.

Operation

In operation the camera button is depressed with the aid of a stick while the box is maneuvered to take in the required view. When the camera is in the position of Fig. 1 the waist level finder is used and in the other position the eye level finder suffices. The glass windows can be made large enough to give a view for the operator as well as the camera, a mirror being placed at a 45 degree angle for the horizontal position. In any case the bright light should be kept from the box by the use of a cloth thrown over the head of the operator as in the focussing of a view camera. In general it is better to instruct a swimmer or diver as to the limits of the camera's range and have them perform in that area, rather than to try and follow subjects by moving the cumbersome box.

The exposures under water will depend upon the color of the bottom of the water body as well as the clearness of the water and the brightness of the day. Sunlight is decidedly preferable. The average swimming pool is ideal for pictures because of the usual white sides and bottom. One must beware of a pool in which a good deal of bluestone has been placed, however, for the bluestone will act just like a haze above the surface.

In general the following will give good exposures: In a swimming tank—light bottom and sides: Give 1 to 1½ stops increase over the exposure above the surface for the prevailing light condition. In lakes and rivers—natural surroundings: Give 2 to 3 stops increase over exposure for surface conditions. As can be seen by the increase in exposure that is necessary, the use of Superpan film is desirable.

Projection Technique

THERE are certain faults that occur repeatedly in the projection of amateur movies which serve to mar the effect of the best films. Some faults appear through obscure factors but most are the result of laziness or indifference on the part of the projector operator and are thus inexcusable. Following are listed six of the most common faults arranged in the order of declining offensiveness.

1. **SHOWING FULL WHITE LIGHT OF PROJECTOR ON THE SCREEN—NO FILM IN PROJECTOR GATE.** This is a particularly disturbing fault and the easiest one to correct. The unprotected beam from the projector lamp with no film in the gate is over ten times as brilliant as that from the normally exposed scene. Thus when this glare appears on the scene at the end of the showing of a film, the effect on the audience is very unpleasant. Allowing the bright frosted leader to be shown at the start of a reel is not quite so bad but nevertheless should not be allowed. **THE REMEDY:** The use of the separate on and off switch for projection lamp on projectors so equipped or the addition of such a switch to other projectors. A good rule of manipulation is to first start the motor and projector mechanism and then, when it is up to speed and the first scene is in the projector gate, to turn on the lamp. At the end of the last scene turn off the lamp and then allow the film to run out through the mechanism before turning off the motor. This can be done without sacrificing even part of a scene, by splicing opaque leaders on **BOTH** head and tail of a reel. A supply of opaque leader should be obtained by fogging ordinary positive film and developing it. This will not cost more than two dollars a hundred feet and is well worth the using. The protection of a leader, opaque or otherwise, at the end of a reel can not be over emphasized.

2. **LACK OF PREPARATION**—The amateur projectionist fails to set up the projector and screen before time for the show and thus ruins the first impression of the film by having the first few scenes appear out of focus and improperly centered upon the screen. **THE REMEDY:** The setting up, focusing, and centering of the projector before the audience arrives. If a few feet of title are spliced end to end to form a loop, this can be threaded into the projector and run while the centering and focussing is done. The loop can be preserved for the sole purpose of preparing for the show.

3. **UNSTEADY SCREEN IMAGE**—Leaving out unsteady scenes due to camera wiggles and mis-functions, unsteady pictures can be caused in the projector by (a) Worn mechanism (b) Improperly adjusted tension shoes (c) Dirt or emulsion piled in gate (d) Fresh film not fully "seasoned". **THE REMEDY:** Inspection, adjustment, and replacement of worn or out of adjustment parts and thorough cleaning of film gate and guides. New film which may be unsteady at first will behave itself after a few days have elapsed.

4. **POOR DEFINITION OF SCREEN IMAGE**—This can be caused by a dirty optical system, improper focussing, or may be due to inherent character of certain high aperture lenses when used too close to the screen. High aperture lenses should be used only when extreme light efficiency is necessary on large pictures and long throws. Their common defect when used at close range is to give a picture sharp in the center but slightly out of focus around the edges. **THE REMEDY:** Obviously the cleaning and adjusting of the optical system will eliminate most faults. Remember that when projecting a reel which has film made up of original reversal scenes inter-cut with reversal duplicated or prints from 16mm negative, there must be a slight change in the focus of the projector lens due to the emulsion changing from one side of the film to the other.

5. **IMPROPER ILLUMINATION FOR THE SIZE OF SCREEN USED**—Many do not give enough consideration to the fact that the relation between projector wattage and screen size is important. With modern projectors it is possible to have a picture too *bright* as well as too dim. A picture with too much illumination will show flicker and grain excessively. **THE REMEDY:** The following table will serve as a guide for the proper lamp to use for certain size pictures.

TABLE I
FOR PROJECTION OF 16MM BLACK & WHITE FILM

<i>Size of Picture</i>	<i>Approx. Illumination Desirable</i>
30"x40"	250-300 watts
36"x48"	400 watts
4' x 5'	500 watts
6' x 8'	750 watts
8' x 10'	1000 watts

It can be seen that 300 watts is insufficient for a 6 ft. x 8 ft. picture and 750 watts is too much for a 30"x40" picture. Yet both combinations are used frequently.

6. **IMPROPER SIZE PICTURE FOR SIZE OF ROOM**—The picture size should be governed by the size of the room and the arrangement for seating the audience. In general the 2 inch projection lens will automatically give just the right picture size for an audience placed in the area between the projector and a point half way between the projector and the screen. No one should be allowed to sit nearer to the screen. **THE REMEDY:** Because of the use of lenses other than 2 inch focal length, the following table is presented:

<i>Size of Room (Length)</i>	<i>Size of Picture (Width)</i>	<i>Audience No Closer Than</i>
10' to 15'	2'	7'
15' to 20'	3'	9'
20' to 25'	4'	12'
25' to 30'	5'	15'
30' to 35'	5½'	17'
35' to 40'	6'	20'



"Hungarian Nobleman"

Advanced Medal Print

Arnold G. Harms

■ We feel that Mr. Harms has made excellent use of the fine pictorial opportunities which this subject offers. Observe how his treatment emphasizes the unique hair; the piercing, haughty glance; the contemptuous and sensual mouth; while the elaborate necktie strongly conveys the idea of foppish dress. All of these are characteristics which, rightly or wrongly, are associated in the American mind with the type which Mr. Harms is attempting to portray. One can continue to read characteristics into this unique head almost without end, and this fact is an indication, a measure, of the interest-value of the picture. One glance is not sufficient. The observer feels that there is more to be seen, which is simply one way of saying that this picture commands attention. We constantly receive indications that many an amateur is firmly convinced that good portraiture is impossible without elaborate lighting equipment. In the past while discussing a number of the best portraits which have appeared in these pages, we have pointed out that a very simple lighting scheme was used. The same is true of this picture, for only one light was used in its production. Good lighting equipment is of course desirable providing one learns how to use it. It is also true that good portraits can be produced with a minimum of equipment if the photographer knows "what it's all about".

Data: One light; aperture F:8; E.K. Portrait-Pan., in A.B.C. Pyro; print on E.K. Opal L.



Mrs. W. E. Currie

■ Mrs. Currie has achieved a wonderfully graceful and decorative flower-pattern in this picture that is strongly reminiscent of the work of the Japanese school in this country. To a greater extent than is usually the case pictures of this kind depend for success upon extremely delicate adjustments of the composition. The reader will have observed that much of the Japanese art in mediums other than photography is quite unconcerned with three dimensional form. The major effort is directed toward achieving the utmost refinement in harmonious distribution of the picture elements. In a photograph such as this where the intention is to produce a decoration, the effort is in the same direction, and the further we go in that direction the greater will be the emphasis placed on the composition as such. The only weakness which we see in this fine picture may serve to illustrate this point. We feel that in the lower left of the print the movement toward

the left is just a shade too strong. This seems to be due to the fact that the space between the stem of the flower and the leaves in the lower left tend to separate the

(Continued on Page 405)

Third Award Advanced Class

■ It seems evident that Mr. Jordan is steadily developing an individual style all his own, that is characterized by a superb technique, and a fine realism in the treatment of his subjects. Speaking in general terms it seems that his greatest weakness at present lies in the fact that a number of his poses (not this one in particular) contain a faint suggestion of rigidity. That is to say that they just miss the fluidity and naturalness that is so noticeable in the work of Mortensen or Kells, for example. The art of posing is a difficult one and Mr. Jordan has shown marked improvement in this respect, so this comment should not be taken as a disparagement of the wonderful progress he has made. In the present print we would like to see a little more added to the top and right so that more of the hair would show in the picture. We believe that this would help to give relief to the large expanse of flesh, and that the hair would introduce a line (it would not have to be continuous) that would carry the eye back to the right, which would tend to develop a circular movement in the face. Such a touch of hair is particularly needed at the top of the print directly above the tip of the nose, for this is now the weakest point in the picture.



"Conversation"

Stanley R. Jordan

Data: 4x5" Graflex; 10" Carl Zeiss; 1/2 sec. at F:22, on E.K. Portrait Pan., in Pyro-soda; E.K. Opal L in M.Q.; by the equivalent in photofloods of 5000W on figure and 7000 W on background.

**Fourth Award
Advanced Class**

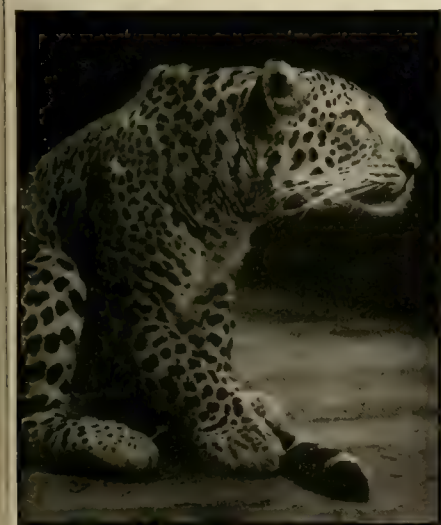
■ Mr. Desai offers a most interesting subject, nicely placed within the picture space. Since we imagine that readers will suspect that the body has been greased and that possibly some will feel that it has been overdone, we point out that Mr. Desai explains in a footnote to his technical data that this high-lighting of the body is due entirely to perspiration, and the low angle of light under which the picture was taken, so it must be accepted as true to life. It seems to us that a picture of this nature especially when one takes the title into consideration demands sharp definition throughout. We regret therefore, that due probably to the large aperture used, that there is a falling off of definition both in the hands and in the face. This is particularly disadvantageous in the case of the face for it results in the face being less strongly shown than the rest of the body. We have seldom seen a picture in which the face could be successfully slighted in this manner, for regardless of the action the face always remains a most important part of any picture in which it is shown.

Data: Zeiss Ikon Ikomat; 6" Zeiss Tessar; 1/25th sec. at F:4.5 by daylight, on Uletuma plate, in Metol; print developed in Amidol.



"Force"

M. Desai



"Concentration"
John Muller

worker knows what he is trying to say, and knows how to say it. Whom else do you feel has attained such stature?

Data: 4x5" Graflex; 16" Zeiss Telephoto; 1/25th sec. at F:8, on Defender X.F. Pan., in M.Q. tank; Veltura Q, in D-72.

**Fifth Award
Advanced Class**

■ Mr. Muller has caught this beautiful animal in a characteristic attitude that brings out the idea of the title most aptly. Unless there were plenty of good strong iron bars in the way we would prefer to have Mr. Tiger do his "concentrating" on someone other than ourselves. Perhaps a little more space at the right would give our imaginations more room in which to translate the threat in this picture into action. In speaking of Mr. Jordan's picture we mentioned the matter of individual style. It occurs to us that it should be interesting and instructive for those who follow this department to note the individual styles of those outstanding workers whose pictures appear more or less regularly. Certainly Mr. Muller's pictures are easily recognized without a signature, and the same is equally true of Mr. Kell's and Mrs. Christine B. Fletcher. We feel that the attainment of a distinct personal style is a mark of artistic maturity, evidence that the



"Graining"

Eldridge Looney

Amateur Medal Print

■ In pictures of this nature which we have seen we have noticed two weaknesses which seemed common to a great many of them. Often the whole of both forearms was brilliantly lighted with the result that they tended to carry the eye out of the picture. Also in a great many cases too much of the machine was included causing a scattering of the attention. The reader will observe that both of these failings, and they usually appear in combination, destroy the unity of the picture; cause it to fall apart because the attention is not concentrated upon a definite center of interest. Observe how nicely Mr. Looney has avoided these pitfalls. His method has been, to carefully control the lighting so that only the essentials of the picture are strongly illuminated. Notice how the hand and arm in the upper left has been subordinated to the hand on the right, and imagine how distracting the forearm in the upper left would be if brilliantly lighted. The amount of machinery shown has been kept at a minimum and yet all that is necessary to the pictorial success of the picture is there. Those who plan to photograph machinery will do well to fix this last point in their minds.

Data: Ansco View; 8½" Turner Reich; 1 sec. at F:32, on DuPont Pan., in Glycin, by one photoflood plus skylight; Defender Velour Black DL, in Amidol.

**Second Award
Amateur Class**

■ Mr. Melville presents an interesting aspect of this bronze statuette and the picture is good with respect to technique. We imagine that the most interesting point of discussion with respect to this picture will revolve about the question of how much pictorial credit a worker should receive for a photograph of a piece of sculpture. Those who oppose such pictures will claim that the interest which the picture contains derives primarily from the work of the sculptor, and that the photographer contributes little or nothing of a creative nature in producing the picture. The other side will counter with the statement that all photographers must start with a ready-made subject and that it makes no difference whether that subject is the creation of nature, as in the case of a landscape or portrait, or the work of man, as is the case when sculpture is photographed. They go on to explain that the photographer of sculpture must select the best point of view, must arrange the lighting and must meet all of the technical problems that confront the portrait photographer, for example. As is usually the case the truth of the matter lies somewhere between these two extremes. It is, of course, obvious that very photographer must master the



"Man of Bronze"

M. L. Melville

As is usually the case the truth of the matter lies somewhere between these two extremes. It is, of course, obvious that very photographer must master the

(Continued from Page 406)



B. H. Shepley, Jr.

**Third Award
Amateur Class**

■ Mr. Shepley shows us a nicely modeled head in a lovely high key that is most attractive and to our mind very suitable for young subjects. We cannot see that the extremely low position of the head is satisfactory with the print in its present form. The space at the top hardly appears justified. One could justify this by working in something in the upper left of the print. A printed name or initial would probably be most appropriate. Failing this we feel that the picture would be better trimmed rather close to the head at the top and with enough added at the base to lift the eyes above the center of the picture space. This picture was made with a miniature camera and a 50 mm. lens. We are aware of the difficulties of keeping the head of an active child in just the right position in the finder when working in close, so we suspect that Mr. Shepley adopted the present placing because there is nothing more than appears in the print, at the base of the negative. In

this case he can adopt the first alternative mentioned above or use a very close trim that would just cut into the head at the top and the right, and remove enough from the left to place the eyes in the right position in the picture space. This trim results in a quite attractive portrait.

Data: Leica; 50 mm. lens; 1/30th sec. at F:3.5, with K-2 filter, indoors by daylight, 10:30 A.M. in March; E.K. S.S. Pan., in Paraphenylenc diamine; Gevaert K-32, in D-72.



"Flirtin' Gal"
Delbert E. Jack

Fourth Award Amateur Class

■ Mr Jack has obtained a most amusing and vivacious expression in this picture that fully justifies the title. Notice how an element of piquancy and action has been added to the picture by the simple expedient of tilting the head and body slightly with respect to the sides of the print. This appears to us to be a perfectly legitimate subterfuge (assuming that the picture was not actually photographed in such a position) and the amateur will do well to try such a trimming on his pictures when the spirit of the picture is lively and carefree as is the case here. Care must be taken, of course, not to carry such tilting to the point where the body appears out of balance and in danger of toppling over. Also tilting cannot be resorted to if there are elements in the background that will betray the fact that the picture has been turned from the vertical.

Data: Leica Model A; 50 mm. lens 1/5th sec. at F:6.3, on DuPont Superior, in Sease #3, by 2 photofoods; E.K. Opal P in D-72.

Fifth Award Amateur Class

■ Mr. Loeber found a most interesting pattern in the ropes clustered about this mooring chock. After the picture was taken it became evident that something must be done to prevent the directional force of the three ropes from carrying the eye out of the picture. Dodging in or working up with ink after the manner described by Mr. Harding in our Oct. 1933 issue is, of course, the obvious remedy, but we feel that in this print it has been carried just a shade too far to the point where it becomes a trifle obvious. This is especially noticeable in the water area at the right. We must remember that water cannot be other than level, and consequently anything floating on it must be level also. Therefore the trim of the print should be corrected so that the floating log dimly seen in the background is brought back to the horizontal.



"The Mooring"

C. S. Loeber

Data: Seneca postcard size camera with $3\frac{1}{4} \times 4\frac{1}{4}$ " film; 1/5th sec. at F:11, on Defender H.G.S., in D-72; 9 A.M. on foggy day in May; Agfa Brovira Matte Medium, in D-72; lower left corner and rope ends darkened with bromoil ink and megilp.

Monthly Competition

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class: M. Desai, for the Camera Art Circle; Arnold G. Harms, for the Fort Dearborn Camera Club; Mrs. W. E. Currie, for the Miniature Camera Club of New York; Stanley R. Jordan, for the Photographic Society of San Francisco; and John Muller, for the Pictorial Photographers of America.

The following won points for their clubs in the Amateur Class: Delbert E. Jack for the Golden Gate Miniature Camera Club; M. L. Melville, for the Photographic Society of San Francisco; and B. H. Shepley, Jr., for the Whittier Camera Club.

Contributing Clubs

Bakersfield (Calif.) Camera Club
California Camera Club
Camera Art Circle (Poona, India)
Camera Associates of Huntington (W.Va.)
East Bay (Oakland, Calif.) Camera Club
Fort Dearborn Camera Club
Golden Gate Miniature Camera Club (San Francisco, Calif.)
Hamilton (Canada) Camera Club
Hartford County (Conn.) Camera Club
Japanese Camera Club (San Francisco, Calif.)

Miniature Camera Club of New York
Montreal Camera Club
Norfolk (Va.) Photographic Club
Photographic Society of San Francisco
Pictorial Photographers of America
St. Paul Camera Club
Telephone Camera Club of Manhattan
Toronto Camera Club
Washington (D.C.) Pictorialists
Whittier (Calif.) Camera Club

Standing of Clubs

Large Clubs Advanced Class

Los Angeles Camera Club	22
Camera Club of Ottawa	19
Fort Dearborn Camera Club	18
Montreal Camera Club	10
Photographic Society of San Francisco	10
Pictorial Photographers of America	10
Miniature Camera Club of New York ..	7
Telephone Camera Club of Manhattan ..	3
American Society of Cinematographers ..	1

Small Clubs Advanced Class

Erie Camera Club	5
Monterey Peninsula Camera Club	4
Baltimore Camera Club	2
Camera Art Circle	2
Japanese Camera Club	2
East Bay Camera Club	1

Large Clubs Amateur Class

Photographic Society of San Francisco ..	36
California Camera Club	8
Schenectady Photographic Society	6
Golden Gate Miniature Camera Club	6
Miniature Camera Club of New York....	5
Los Angeles Camera Club	3
Camera Club of Ottawa	1

Small Clubs Amateur Class

Hamilton Camera Club	11
Washington Pictorialists	11
Cleveland Central Y.M.C.A. Camera Club ..	3
San Jose Camera Club	3
Whittier Camera Club	3
Monterey Peninsula Camera Club	2

(Continued from Page 400)

leaves slightly from the rest of the design, giving them a suggestion of independent status. If a leaf had been used to fill in this space, running up not quite as high as the point at which the tallest leaf on the left cuts the edge of the print, we believe it would eliminate this slight weakness and tie the whole thing together in a virtually perfect composition. Since this is the product of a miniature camera we call attention to the fact that what some may mistake for grain in the reproduction is not that, but is caused by the texture of the paper, the print made on Vitava Tapestry.

Data: Leica; 50 mm. lens; 2 secs. at F:18, by 1000 W Mazda light; Agfa S.S. Pan.; Print on E.K. Vitava Tapestry.

Advanced Competitors

William A. Alcock, F.R.P.S., Brooklyn, N.Y.
 Edward Alenius, A.R.P.S., Jamaica, N.Y.
 Frank W. Bieber, New York, N.Y.
 W.H. Boyes, Montreal, Canada
 J. W. Campbell, Montreal, Canada
 Alice M. Caveney, Flushing, N.Y.
 P. J. Croft, Montreal, Canada
 *Mrs. W. E. Currie, Flushing, N.Y.
 Evelyn Curtis, Oakland, Calif.
 *M. Desai, Bombay, India
 Fred M. Doudna, Washington, D.C.
 C. P. C. Downman, Montreal, Canada
 James Emmett, Jr., A.R.P.S., Hinsdale, Ill.
 Christine B. Fletcher, San Francisco, Calif.
 Norman Rhoades Garrett, Prescott, Ariz.
 Charles Glassey, Toronto, Canada
 W. P. Grayston, Montreal, Canada
 Samuel Grierson, Brooklyn, N.Y.
 *Arnold G. Harms, Chicago, Ill.
 Stanley Harrod, F.R.P.S., Toronto, Canada
 Lionel Heymann, Chicago, Ill.

N. S. Horton, Montreal, Canada
 V. E. Johnson, Chicago, Ill.
 Thornton Johnston, Toronto, Canada
 *Stanley R. Jordan, San Francisco, Calif.
 G. H. Kampe, Chicago, Ill.
 Sorab J. Kharegat, A.R.P.S., Bombay, India
 Russell King, Montreal, Canada
 H. Kira, Los Angeles, Calif.
 Sophie L. Lauffer, F.R.P.S., Brooklyn, N.Y.
 George T. Lewis, Brooklyn, N.Y.
 L. H. Longwell, Chicago, Ill.
 William T. Lyon, Chicago, Ill.
 N. Matsumoto, San Francisco, Calif.
 Winstan K. Maxson, Los Angeles, Calif.
 Paula K. Morse, New York, N.Y.
 *John Muller, New York, N.Y.
 R. D. Pestonji, A.R.P.S., Bangkok, Siam
 A. T. Roberts, Toronto, Canada
 M. Arthur Robinson, Honolulu, T.H.
 Louis Schink, New York, N.Y.
 *Denotes prize winners.

Amateur Competitors

V. Aiyar, Calcutta, India
 John Amos, Edgecliff, Australia
 G. D. Ayldett, Norfolk, Va.
 William R. Bland, West Hartford, Conn.
 A. A. Chandler, Burbank, Calif.
 L. Charles-Smith, Washington, D.C.
 Margaret B. Clarke, San Francisco, Calif.
 Raymond B. Collier, San Francisco, Calif.
 Leonard Davis, Hamilton, Canada
 Mrs. S. C. Davis, Tucson, Ariz.
 Anne Pilger Dewey, Chicago, Ill.
 John Fowsky, New York, N.Y.
 Barry M. Goldwater, Phoenix, Ariz.
 B. C. Grant, Schofield Barracks, T.H.
 Harold Guthman, Chicago, Ill.
 Johanna E. Heim, San Francisco, Calif.
 Mary Catherine Higgs, Rosewell, N. Mex.
 Lottie Huxtable, Pensacola, Fla.
 *Delbert E. Jack, Berkeley, Calif.
 Robert Janssen, New York, N.Y.
 A. Geary Johnson, East Gloucester, Mass.
 William Karsten, New York, N.Y.
 *C. S. Loeber, San Francisco, Calif.
 *Eldridge Looney, Omaha, Nebr.
 Louis Luh, Washington, D.C.
 J. R. Macdonald, Toronto, Canada
 Eleanor MacLean, Bronx, N.Y.
 David Mann, Chicago, Ill.
 *M. L. Melville, San Francisco, Calif.
 Paul M. Meyer, Salina, Ohio
 Harland P. Nasvik, St. Paul, Minn.

Robert Normart, Fresno, Calif.
 Don Kirby Oliver, San Francisco, Calif.
 Frank Ordway, Claremont, Calif.
 F. Owen Pearce, San Francisco, Calif.
 C. E. Peterson, Oakland, Calif.
 H. J. Phillips, New York, N.Y.
 W. B. Piers, Port Haney, Canada
 Frank X. Reilly, Pottsville, Pa.
 F. L. Rogers, San Francisco, Calif.
 Cadet Earl R. Russell, Tacoma, Wash.
 Herbert H. Schoenlank, Chicago, Ill.
 J. W. Schuler, Akron, Ohio
 George Semonsen, San Francisco, Calif.
 H. E. Sheffield, Cleveland, Ohio
 *B. H. Shepley, Jr., San Gabriel, Calif.
 Guy Simon, Shelby, Ohio
 J. P. Skillen, Hamilton, Ont., Canada
 Jackson Stevens, National City, Calif.
 William N. Takahashi, Berkeley, Calif.
 Walter L. Tetman, Huntington, W. Va.
 Stuart S. Towne, Los Angeles, Calif.
 Lee Townsend, San Francisco, Calif.
 J. K. Trafton, San Francisco, Calif.
 F. C. Ward, St. Joseph, Mo.
 Freda C. Ward, St. Joseph, Mo.
 A. P. Wheeler, Harvey, Ill.
 Morgan W. Wickersham, Washington, D.C.
 Calvin R. Williams, Bakersfield, Calif.
 O. J. Woodward, Piedmont, Calif.

*Denotes prize winners.

(Continued from Page 403)

technical problems presented by his subject so this aspect of the matter appears to be rather beside the point. It seems to us that the most attractive view of a piece of sculpture should be fairly obvious to any reasonably cultivated eye, and we are not disposed to give a photographer much fulsome praise for recognizing it. Further it should be observed that the portrait photographer starts only with raw material, he must create both pose and expression, two things which are ready made for the photographer of sculpture. Therefore we are inclined to feel that in photographing sculpture the photographer, at best, is contributing a minimum of creative effort, and that he cannot legitimately claim responsibility for the total effect of the picture. For that reason we are personally inclined to discount the pictorial merit of a picture such as this. Much must remain unsaid for lack of space, and we would be happy to have this discussion carried further in the space devoted to Competition Comment in our Correspondence Dept. We have not been receiving nearly as much Competition Comment as we would like to have, and hope that readers will be more liberal with their contributions in the future.

Data: 4x5" Korona View; 9½" Goerz Dagor; 2 sec. at F:22, on Defender XF Pan., 12 min. in D-7; paper negative on Dassonville Charcoal Black F; final print on E.K. Opal P; 2½ min. in D-72.

Correspondence

Minicams Please Note

Gentlemen:

Albert Jourdan's article on "Two for a Quarter Telephoto Lenses" was exactly what I had been looking for. More power to him, not his lenses—they don't need it.

The enclosed enlargements from two Leica negatives, both made from the same location, and both enlarged to the same number of diameters (about eight) prove to me that my new two bit telephoto will do for pictorial work. However these enlargements are not examples of pictorial art. They are just test shots of a farmer's barn which was slightly more than one-half mile from the camera.

I made my telephoto with a lens from a pair of 8 inch Kresge Dollar Store specs. I started with a ten inch length of 1¼" brass pipe, had one end of it threaded to screw in the Leica lens opening. Then I found a piece of hard rubber tubing about three inches long and just about the right diameter to telescope inside the brass pipe. A little work with emery cloth made a good fit. The hard rubber tube is my lens and diaphragm mount; it slips forward and back to allow focusing which is done with one of D. Paul Shull's lens testers. After focusing, the camera replaces the lens tester. The brass tube is supported by the tripod as in the 135 mm. Leica telephoto.

Enclosed find \$2.50 for a year's subscription. I have been buying **Camera Craft** at a local store, but too often they are sold out, making a borrower out of me.

Yours

John W. Ripley.

About Ethics

Dear Mr. Young:

Lack of comment by readers on the ethics of entering criticized and altered pictures in salons—question in your June correspondence—disappoints me. The matter deserves study. I have given it much thought.

As in the purist-pictorialist controversy, I stand rather on middle ground, dangerous as it is to be conservative about any-

thing nowadays. True, I find little companionship where bullets whiz past both ways and there is occasional firing meant to kill off any of us photographic nobodies who chance to obstruct the big guns of both extremes.

My view on salon entry of prints after criticism and alteration is in part a friendly disagreement with the one who brought up the question. In fact, I see it as one of ethics versus progress. Neither can be wholly disregarded.

You may recall my expression, in a personal letter some time ago, of the opinion that the greatest value in making any picture not strictly mercenary is what the photographer learns from the operation—what progress it effects in his own work. That seems especially true here. Even one branch or method of modern photography is too complex for any of us to master in a lifetime by our own experiences alone.

If a worker, through advice by others, genuinely comprehends flaws in his pictures, then removes the defects himself, he will avoid them in the future. He has progressed. Further, in any such real comprehension, alterations are not blind acceptance of instructions; they may contain more of the worker's own ability and originality than did the pictures in first form. If so, I contend, competition entry is justified.

But if the alterations are blind acceptance only, I agree heartily with the view taken. Presentation as the entrant's own work is wrong. A more important and practical fact is that usually a judge or jury with any intelligence will recognize the lack of originality and reject the prints. Yes, there are such judges, however vigorously the fact is denied by some disappointed entrants. . . .

Sincerely,

F. C. Ward.

More About Ethics

Dear Mr. Young:

The communication of M.H.S. in your June Correspondence Department, seems

to invite replies, so I modestly offer an opinion. In the first place we should face the fact that there will always be a small group who will not live up to any ethical code, sometimes for the simple reason that they do not wish to but much more often because they are so constituted that they do not realize that their particular action is a violation, even though they may be quick to condemn others for similar misdemeanors. Secondly we should appreciate the value of constructive criticism in developing an individuals talents. No obstacle should be allowed to limit the fullest use of this means of improvement. Further, the critic can do little more than suggest or point the way. The worker himself must first understand and then carry out the possible improvements that have been revealed to him. Consequently it would appear that improvements, resulting from criticism, depend on the worker as well as the critic.

I seriously doubt if the formulation of an ethical code would have any real effect on the situation, and therefore feel that this is a matter that must be left to the individual conscience. We may comfort ourselves with the knowledge that

those who are prone to take unfair advantages to themselves will seldom if ever produce anything of real merit. It's just not in the cards.

Sincerely,
L.G.S.

Still More About Ethics

Dear Mr. Young:

To take the other side of the argument in M. H. S.'s "Question On Ethics"; it seems to me that an earnest worker should be allowed to improve his print by using clinical comment or any other criticism. Provided, of course, that the changes are not of such major importance as to alter the character of the picture. If the theme of the print is greatly altered then it is a new picture—and the result of group effort.

The final test is up to the individual worker. If he can incorporate the suggestions and still feel that it is his picture—that it expresses the same idea as the original print—then he should feel that he has a right to submit it to any competition or salon.

Sincerely,
Roland Calder.

Club Notes

Forthcoming Exhibitions

■ **44th Annual Toronto Salon of Photography.** Under the direction of the Toronto Camera Club. Held at the Canadian National Exhibition. Address Secretary W. H. Hammond, Toronto Camera Club, 2 Gould Street, Toronto, Canada. Closing date August 1, 1935. Entry fee \$1.00. Limit 4 Pictorial Prints and 5 Natural History or Scientific Prints. August 23 to September 7, 1935.

■ **80th Annual Exhibition of the Royal Photographic Society of Great Britain.** Address, The Secretary, The Royal Photographic Society, 35, Russell Square, London, W. C. 1, England. Closing date August 16, 1935 entries from Overseas, August 2, 1935. Limit 4 prints. No entry fee but exhibitors must prepay return postage. Prints may be sent unmounted. September 14 to October 12, 1935.

■ **Fifth Irish Salon of Photography.** Address, The Hon. Secretary, The Irish Salon of Photography, 89 Grafton Street, Dublin, Ireland. Closing date September 14, 1935. Entry fee in British Isles 3 Shillings, in any other country, 4 Shillings 6 Pence. Limit 6 prints. Prints may be unmounted. November 2 to 9, 1935.

■ **The London Salon of Photography, 1935.** Address, The Hon. Secretary, The London Salon of Photography, 5a, Pall Mall East London, S.W. 1, England. Closing date September 4, 1935. Entry fee 5s. Prints may be mounted or unmounted. September 14th to October 12th, 1935.

■ **The Second Canadian International Salon of Photographic Art.** Address Exhibition Secretary, Canadian International Salon of Photographic Art, The National Gallery of Canada, Ottawa, Canada. Closing date September 20, 1935. No entry fee or return postage required. To be exhibited in other Canadian cities following November showing in Ottawa. Prints may be sent mounted or unmounted. November 6th to 21st, 1935.

■ **The Second Indian (First International) Salon of Photographic Art.** Promoted by the Camera Pictorialists of Bombay. Address Mr. F. R. Ratnagar, F.R.P.S., Hon. Salon Secretary, Camera Pictorialists of Bombay, Central Bank Building, Fort, Bombay, India. Closing date October 1st, 1935. Entry fee 5s., limit four prints. Prints may be sent unmounted. November 17th to 30th, 1935.

■ **The Metropolitan Salon of Photography.** Sponsored by The Oval Table. Address Mr. Walter Dreicer, 48 West 48th Street, New York, N.Y. Closing date November 2nd, 1935. Entry fee \$1.00, limit four prints. Prints must be mounted. December 3rd to 15th, 1935.

■ **Fourth Annual Minneapolis Salon of Photography.** Address R. W. Burnet, Chairman Salota Committee, Minneapolis Camera Club, 2601 Euclid Place, Minneapolis, Minnesota. Closing date November 12th, 1935. Entry fee \$1.00. December 1st to 31st, 1935.

■ **9th International Christmas Salon of Photography.** Address Mr. E. Borrenbergen, Dambruggestr. 265, Antwerp, Belgium. Closing date November 15th, 1935. Entry fee 5 Belga. Limit four prints. May be sent unmounted. December 22, 1935, to January 5, 1936.

■ **Third (Second International) Wilmington Salon of Photography.** Sponsored by the Delaware Camera Club. Address E. W. Sautter, P.O. Box 818, Wilmington, Delaware. Closing date December 15, 1935. Entry fee \$1.00. Limit four prints, foreign prints must not be mounted. January 6th to 26th, 1936.

■ **The Seventh International Salon of Photographic Art at Brussels.** Address M. M. Devaivre, 152 rue Markelbach, Brussels, Belgium. Closing date February 25th, 1936. Entry fee 7 Belgas. March 21st to April 5th, 1936.

Important Exhibition at De Young Museum

An exhibition of great interest to photographers, professional and amateur, to advertising men, to printers and to anyone interested in the graphic arts will be hung in the M. H. De Young Memorial Museum, Golden Gate Park, San Francisco, California, from July 24 - Aug. 23, 1935. This exhibition contains 254 examples of the finest illustrative photography produced in this country. Virtually every important professional illustrative photographer is represented in the show, and a great many of the pictures are the product of three color photography. The show offers an excellent opportunity for the amateur to view the work of these outstanding professionals at first hand. These men seldom send to photographic salons so the chance should not be permitted to slip by. As a measure of the quality and importance of this exhibition we might point out that a recent issue of Applied Photography was devoted entirely to a review of this show. It was originally compiled by the National Alliance of Art

and Industry, and the Photographic Illustrators, of New York, and is brought to San Francisco under the auspices of the Photographic Society of San Francisco. The Society was put to considerable expense in bringing the exhibition here and deserves the gratitude of all San Franciscans for a valuable public service.

International Leica Exhibit

We apologize to our San Francisco readers for the fact that we did not learn that the International Exhibit of Leica Photographs was coming to San Francisco until after our July issue had gone to press. It was hung in the windows of The Emporium from July 14-20. Outstanding among a most interesting group of 300 prints was the work of three Germans, Dr. Paul Wolff, Alfred Person, and Anton F. Baumann. Each of these men contributed a number of 18x24" prints of truly marvelous quality. Absolutely no grain was visible at any reasonable viewing distance, while gradation and definition was all that anyone could desire. Even the most case hardened opponent of the mini-

ature camera would have a tough time maintaining his position in the face of such work. Along with the International Exhibit were shown a number of fine things of the San Francisco Bay Bridge from the camera of Peter Stackpole, a young photographer that is building a deserved reputation in a hurry.

Nicolas Haz Summer Courses

"Good news travels fast" so they say and we are happy to give it a push by reporting that Mr. Haz's summer courses in Woodstock, Ulster Co., N.Y., are proving quite popular. Each course lasts one week, and Mr. Haz is considering continuing this plan through the winter in New York City if the demand for such instruction continues. As an indication of the esteem in which Mr. Haz's instruction is held we call attention to the very accomplished photographers which have traveled to Woodstock for a weeks study. W. P. Grayston, of Montreal is official still photographer for a large motion picture company, and has won several awards in the advanced class of the **Camera Craft** Competitions. Charles J. Carbonaro, cinematographer of repute, and Rudolph Paul, former president of the Brooklyn Institute of Photography, are also students; while from the literary field Mr. Haz has drawn Richard Henry Little, columnist for the Chicago Tribune, and Percival Wilde, playwright. There is still time to enroll in the later courses so write to Mr. Haz without delay.

U.C. Extension Division Courses

Five new photographic courses will be offered by the University of California Extension Division this fall, according to word received from Professor Leon J. Richardson, Extension head.

Courses will be given by P. Douglas Anderson, member of the Extension staff for a number of years, and Associate of the Royal Photographic Society of England.

In San Francisco Anderson will offer a beginning course in photography dealing with principles and practice, starting Tuesday evening, September 17, at 7 p.m. A course on the miniature camera will be inaugurated Thursday evening, September 19, at 7 p.m. For those interested particu-

larly in dark room technique, Anderson will hold classes beginning Monday evening, September 16, at 7 p.m. All San Francisco classes are to be held at the Extension building, 540 Powell Street.

In Oakland at the Extension Center, 1730 Franklin Street, Anderson will start a beginning course in photography Wednesday evening, September 11, at 7 p.m., with his advanced photography course starting Friday evening, September 13, at 7 p.m. Opening meetings are free to anyone interested, it is announced.

Camera Craft Traveling Salons

The Camera Craft Traveling Salons are currently on exhibition as follows:

Group I

Boston Y.M.C.U. Camera Club, Boston, Mass., July 18-28.
Portland Camera Club, Portland, Maine, Aug. 2-12.
Greater Lynn Camera Club, Lynn, Mass., Aug. 15-25.
Jamestown Camera Club, Jamestown, N.Y., Aug. 28-Sept. 6.

Group II

Telephone Camera Club of Washington, Washington, D.C., July 30-August 9.
Camera Club of Richmond, Richmond, Va., Aug. 12-22.
Delaware Camera Club, Wilmington, Del., Aug. 26-Sept. 4.

Group III

Schenectady Photographic Society, Schenectady, N.Y., July 15-30.
Orange Camera Club, East Orange, N.J., Aug. 2-20.
Newark Camera Club, Newark, N.J., Aug. 24-Sept. 11.

Group IV

The Lens Club, Boulder, Colo., Aug. 1-7.
Omaha Camera Club, Omaha, Nebr., Aug. 12-22.
Camera Pictorialists of Kansas City, Kansas City, Mo., Aug. 26-Sept. 4.

Group V

Chicago Camera Club, Chicago, Ill., July 1-30.
Lansing Camera Club, Lansing, Mich., Aug. 2-8.
Gary Camera Club, Gary, Ind., Aug. 10-26.
Miniature Camera Club of Detroit, Detroit, Mich., Aug. 30-Sept. 11.

Notes and Comments

Defender Papers

Anyone who follows the Monthly Competitions of this magazine must be aware of the popularity of the Defender Velour Black line of papers for this name is constantly appearing in the technical data given with respect to the winning pictures. The newer Defender Apex line of papers is not yet so well known but is rapidly achieving a wide-spread popularity. The Defender Photo Supply Co., Inc., Rochester, N.Y., is offering a helpful booklet which fully describes this new paper, under the title, *The Defender Book*—write for your copy today.

Coloring Photographs

We suspect that many of our readers have never tried to color their favorite photographs because they assumed that coloring with oils was necessarily a difficult procedure. If you will try coloring just one print with ROEHRIG Oil Colors, following the directions given you will be absolutely astounded as the ease of the system and the beauty of the results obtained with just a little practice. Write to the Roehrig-Bielenberg Co., Inc., Dept. C, 39 Henry St., Brooklyn, N.Y., for full information or ask your dealer for details.

Carl Zeiss Cameras

What camera shall I buy? Each mail brings us at least one such question, and anyone who has tried to give a conscientious answer to such a query will realize that it is next to impossible to do so. What we try to do is to indicate a means of investigation so that the prospective purchaser will be able to arrive at an intelligent choice from the information he has gathered. It appears that a good approach to the camera field is to study separately the complete line of each of the principle manufacturers, or at least the cameras in each line that interest one. By this means much confusion may be eliminated. Such an investigation should surely include a careful study of the many excellent cameras offered by Carl Zeiss, Inc., 485 Fifth Ave., New York, N.Y. or 728 So. Hill St., Los Angeles, Calif. The firm

will gladly send descriptive literature. A good idea of the great variety of cameras offered by this firm may be obtained from the two advertisements which appear in this issue.

New Bargain List

Willoughby's, 110 W. 32nd St., New York, N.Y., will have a new mid-summer bargain list #835 ready about August 1, 1935. Anyone who has previously seen a Willoughby list will fully appreciate the large number of real money saving buys in both still and movie equipment that this firm invariably offers. We suggest that you write for your copy today in order not to miss out on the particular bargain that meets your needs.

Ponting—Photographer, War Correspondent, Explorer, Inventor

The late Herbert G. Ponting was a pioneer in polar photography. He had already won his spurs in the photographic field when he was selected by Captain Scott from over 100 applicants for the position of official photographer to Scott's second and successful but tragic expedition to the South Pole.

In his early days he was a rancher and mine manager in California, and during this time took up photography. In 1900 he won first prize for telephotography in a world-wide competition, and in 1901 went out to the east as photographer-correspondent to *Leslie's Weekly*. On the outbreak of the Japanese and Russian war he was given an appointment by *Harper's Weekly* as war correspondent and photographer. In the specialized photography of snow and ice he gained experience in the wintry wastes of Siberia, and on his ascent of Mont Blanc and the Jungfrau. With this experience Ponting selected 'Rytol' as sole developer both for his still photography and for his film work in the Antarctic, and he wrote on his return:

"Of 'Rytol' I cannot speak too highly, I am convinced there is nothing better or

more suitable for all explorers. Indeed I never want anything else under any circumstances."

To this statement he remained steadfast for the 25 years which have intervened between his Antarctic adventures and his death on February 7th, 1935.

Captain Scott spoke of Ponting's mastery of ice subjects and his notable eye for a picture, and how with great technical skill he emphasized the subtle shadows of the snow and reproduced its wonderfully transparent texture.

His majesty the King, to whom Ponting showed his films at Buckingham Palace, "wished every British boy could see the pictures."

Ponting presented his "Rytol" developed record to the British Museum for the nation. His book "The Great White South" contains many of these photographic records which, as the King truly said, "foster the spirit of adventure on which the Empire was founded."

Quite recently an exhibition of Ponting's photographs in the Far East and in the Antarctic was shown at the Royal Photographic Society's House.

Amongst his inventions were the "Kinatone," a portable projector, and an ingenious device for creating caricatures by photography.

Ponting received many honors including King George V Polar Medal and the Royal Geographical Society's Medal for Antarctic Exploration; he was F.R.G.S., honorary life member of the American National Geographical Society and F.R.P.S.

The Bee Bee Distance Meter

The photographic tyro desirous of obtaining better results than his fixed camera provides, finds to his frequent confusion and distress that his more expensive instrument which is equipped with a focusing scale to facilitate a correct setting of the lens to the distance of his subject—yields results that are inferior to those obtained with his simpler mechanism.

He fails to appreciate that the higher type of photographic lens employed, while sharp at a given plane, must be focused

with extreme accuracy and that a deviation which seems unimportant, is sufficient to blur his picture. He paces off the number of feet from his subject, makes a hasty mental calculation or what is still worse guesses at his distance with results that are almost uniformly disastrous. Obtaining sharp focus is not difficult, perhaps the least difficult thing in photography, provided the right tools are used. The owner of an expensive camera uses either a ground glass camera and plates, a Reflecting instrument of the Rolleiflex or Rolleicord type, or a miniature camera with a built-in range finder. His focusing problems are definitely solved.

The vast majority of cameras in use, however, make no provision for automatic focusing. Accurate focusing may be obtained and it is up to the photographer to measure his distance precisely. And that of course—is the reason for Distance Meters. It is not surprising, however, in view of their expensiveness, that their use has remained exceedingly limited. The average amateur sees little reason for purchasing a gadget whose cost frequently exceeds that of the camera itself. He places his trust in divine providence and keeps on walking from his subject to the camera.

Such futile exercise should, however, be no longer necessary. The Bee Bee Distance Meter, a triumph of the American mechanic's precision and American factory methods, is the first photographic range finder manufactured in this country—has achieved instant recognition for its unexcelled accuracy and is bound to attain amazing popularity because of its unprecedentedly low price. It should be simple to convince the camera user of the benefits to be obtained from the use of this meter, such as the saving of film, the consequent economy in the camera's upkeep and the assurance of clear, needle-sharp pictures. Moreover, one cannot overestimate the desirability of possessing a device which can be used as a definite standard or norm whereby one may check up on the accuracy of the camera. The simplest camera, provided it possesses a focusing scale, becomes consequently, the equal, in its ability to focus sharply—to

the precise mechanism equipped with synchronous range-finder.

The Bee Bee Distance Meter and Range Finder for Still and Motion Picture Cameras, follows in its general construction and operation, the principle on which Distance Meters have been always built. Though compact, it has a relatively long optical base of approximately 4 inches which insures twice the accuracy that a 2" optical base would. The medium which actuates the meter consists of semi-transparent, gilded dividing mirrors which produce 2 images of your subject in the optical field. As one glances thru the eyepiece, if the meter is not in focus, one sees two images of the subject, one sharply defined, the other a bit vague—within a luminous circle. This is brought about by the fact that the light from the subject is refracted or split. As the dial is rotated, the 2 separate images of your subject are superimposed. When the point of exact coincidence is reached, the distance is read off on the dial. The mirrors form an integral part of the mechanism, can be cleaned as they are not surface frosted and being firmly imbedded in metal will not get out of adjustment.

Repeated tests prove quite conclusively the undeviating accuracy of this instrument from a distance of 2 ft. to photographic infinity . . . and even beyond, for although infinity, on the scale, is shown as 100 ft., objects beyond this distance will register on this scale. This is cited to indicate the extreme sensitivity of the Bee Bee Meter. In photography, however, any distance beyond 100 ft. may be considered at automatic focus when the camera is set to the infinity mark.

The Bee Bee Distance Meter has a handsome, sturdy appearance, and is constructed of polished, nickel-plated brass. It may be attached by means of a universal screw to the tripod socket of any camera so that it forms an integral part of the instrument or may be affixed to the camera in any desired vertical or horizontal position or at any angle by means of a convenient range-finder clip which can be permanently screwed onto the camera. It can also be used as a hand meter.

Considering its extremely low price, its simplicity, its dependability and the fact

that it is guaranteed within 5%, we are certain that the Bee Bee Distance Meter will annihilate every reason for out-of-focus pictures and that it will enhance the performance of even the most inexpensive camera.

Eastman Reduces Price on Cine-Kodak, Model K

Here's news from Rochester that should be welcomed with open arms by amateur cinematographers—and those who would like to own a fine Cine-Kodak with the ultra fast f:1.9 lens but to date haven't been able to afford it.

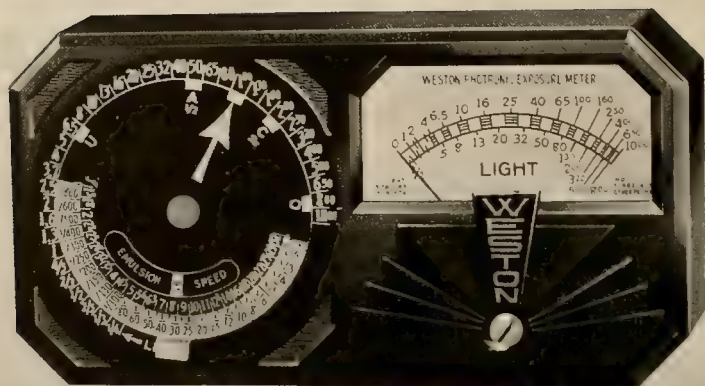
The list price of the Cine-Kodak, Model K, formerly selling at \$152.50, has been reduced to \$112.50 without a carrying case and \$125.00 with the case. This \$27.50 price reduction, according to advice from the Eastman Kodak Company, has been made possible as the result of increased sales, with its attendant manufacturing economies.

Model K, with the f.3.5 lens will no longer be supplied, as the new price of the f.1.9 is practically the same as the f.3.5 model.

Cine-Kodak, Model K, with its f.1.9 lens justly deserves its great popularity in the 16 mm. field for its versatility, its adaptability to other lenses—wide angle and telephoto. Its simplicity plus excellent performance makes it a favorite among travelers, architects, business and professional men and is extensively used by professional cinematographers, who demand precision movie cameras for personal use, and others in every walk of life who desire the best in amateur movies in either monochrome or color.

New Fotoshop Services

New services added to the Fotoshop list are, (1) A new ultra-rapid panchromatic 16 mm. film retailing at \$4.25 per 100 feet, with processing, and postpaid. The Fotoshop organization guarantees this film to be as fast as any "supersensitive" film now on the market. (2) enlargements at 5c each from Leica size, $\frac{1}{2}$ V.P. films, (3) A bargain list of new and used movie and still equipment. New York readers can obtain the Fotoshop's complete list of services by calling at either of its stores, 136-C West 32nd Street, or Broadway, near 168th St., New York.



(Actual Size)
The New
Model 650
Weston
Photronic
Exposure
Meter

Weston Announces New Exposure Meter Of High Light Sensitivity

A new photo-electric exposure meter, Model 650, in which sensitivity to light has been increased more than three times over previous models has just been announced by the Weston Electrical Instrument Corporation, Newark, N.J. It will be on the market within the next few weeks, according to present plans, and will be sold at a lower price.

The new meter extends the determination of accurate exposure settings independent of eye-judgment to the lower brightness levels commonly encountered in photographing interiors, in home photography under artificial light, and in candid camera work. The widened scope of photographic possibilities resulting from the use of super-sensitive film and high-speed lenses, using such settings as F/2 and 1/10 second, is matched by the light-sensitivity of the new instrument. However, it is said to be more compact and more simple to operate than those previously available.

A unique feature of the meter is the redesigned light-value indicator, which accommodates on a single scale a range of brightness values in which the maximum indication is 4000 times the minimum. This is accomplished without sacrifice of legibility by spacing out the divisions at the lower end of the scale where exposure determination is most critical. The movement of the needle over the scale is of sufficient magnitude so that it need not be held close to the eye.

Universal application of the meter to all types of still and motion picture cameras is provided by means of an open-face reference dial including aperture settings from F/1.5 to F/32, shutter speeds from 1/1000 second to 100 seconds, and a range of film speeds from 1 to 64 (Weston rating). Simplified arrangement of the new dial gives a more rapid and convenient indication of "normal" exposure. However, a complete indication of the film-density range available for any particular photograph is also shown at a glance, so that the photographer who wishes to depart from "normal exposure" to meet exceptional light conditions or to distort tone values for artistic effect has all the information required.

Light entering the meter is restricted to that within the usual lens angle by means of a new type of cell window of glass in the form of multiple lenses, a method which transmits a considerably greater proportion of the light than is possible with the baffles previously standard for this purpose.

The photo-electric cell used in the new meter is of the same "dry plate" type first adapted to the photographic exposure problem by the Weston organization. The increased sensitivity of the instrument has been obtained without sacrifice of permanent electrical characteristics, according to the manufacturers, and the reaction of the cell to light of various wave lengths is such that exposure data for color photography is accurately indicated.

Our Book Shelves

Photography Year Book 1935. Edited by T. Korda, published by Cosmopolitan Press Ltd. of London. 464 pages, 9½"x12" stiff covers, price \$10.00.

The most impressive thing about this most interesting volume is the tremendous number and variety of pictures which it contains. In all there are over 1700 pictures divided into four main categories. The main section is devoted to pictorial and commercial photography, and contains 241 pages and 914 illustrations. The other three principal divisions are not so extensive. The first of these covers Scientific photography—"spirit" pictures, X-Ray and infra-red work, photomicrography, micro-photography, montage, etc. The second is devoted to Applied Photography—posters, brochures, magazine covers, etc. The third presents a classified pictorial record showing how photography is being used by advertisers.

Reproduction quality is quite satisfactory, and the only disappointing thing about the book is the arrangement of the pictures. In a number of cases an unrelated assortment of sizes and shapes are clustered upon a single page and this, to our eye at least makes the individual pictures difficult to see. Be that as it may this book fulfills its purpose of presenting a generous cross-section of present day photography admirably well and we would not care to be without it.

Photographic Illustration Library. Published by Kaufmann & Fabry, Chicago,

This is not a book but a loose-leaf binder containing reproductions of the stock photographs offered by the above mentioned firm. It is intended for business firms that use photography for advertising, display, packaging, etc. With this volume on hand it is a simple matter to select the desired picture from the many excellent ones shown, and the order can be sent in by number, and filled within a surprisingly short time. Firms which desire to obtain the book may do so by sending \$10.00 to Kaufmann & Fabry, 425 So. Wabash Ave., Chicago, Ill. The purchase price of the book will be de-

ducted from subsequent orders so that it will eventually cost you nothing. The pictures are arranged by subject matter to make it that much easier to find pictures to fit a particular purpose.

Photo-Markets. Edited and published by John P. Lyons, Washington, D.C. 6x9" 90 pages, price \$.50, paper covers.

From a modest beginning Photo-Markets has steadily grown both in size and usefulness. The present fourth edition contains 2000 markets and numerous short articles of real practical value. The editor has contacted each market given and knows that they do buy photographs and knows that the information given in the book with respect to the kind of photographs they want and the prices they pay for wordage and pictures is as accurate as it is possible to make it. The reader should appreciate that market information must be up to date to be of any value. Photo-Markets is expressly designed to give you that up-to-date information at an extremely low cost.

■ Pre-publication announcement and prospectus on a new photographic annual has recently reached our desk. Title of the new volume will be **U. S. Camera 1935**, and from all appearances it will be a most valuable addition to the list of annual photographic publications. Reproduction is by Beck Gravure, a process which gives excellent quality, and from the list of photographers which have contributed to the book we have every reason to expect that Mr. T. J. Maloney, the Editor, will have many things well worth the finest reproduction.

Page size will be 9 x 12", the average size of the illustrations 8 x 10". Heavy covers with spiral wire binding will complete a nice job of book making. In all there will be 192 pictures shown, representing the best in American amateur and professional photography. The price—\$2.75, publication date Oct. 1, 1935. Wiloughbys, 110 W. 32nd St., New York, N.Y., will be acting as distributors for the book. Dealers will find that they are offering liberal discounts.

Classified Advertisements

This is purely a convenience department for the reader and for that purpose offers Classified Advertisements at cost. 4 cents a word: minimum \$1.00 each insertion. Dealer merchandising ads must be placed in display space at 30 cents per agate line, 10 agate lines minimum. Position Wanted ads, one insertion free. Copy for this department must reach us on or before the 15th and in every case be prepaid.

Items advertised in these columns may be purchased C.O.D. subject to examination and C.O.D. subject to ten days free trial if sent by express. If in doubt, safeguard yourself.

OUTFITS FOR SALE

◆Eastman Graphic Camera, $3\frac{1}{4} \times 4\frac{1}{4}$, fitted with 4x5, B. & L. Tessar I. C., f:4.5, focusing back, view finder, one plate holder with film kits, \$15.00 cut film magazine like new, \$135.00 value, will sell for \$67.50. P. O. Box 306, San Jose, Calif.

◆9x12 cm. Zeiss Maximar B with Zeiss Tessar f:4.5, 135 mm. anastigmat in Compur shutter (old style), film pack adapter, and leather case, like new, \$37.50. M. T., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆ $3\frac{1}{4} \times 4\frac{1}{4}$ Graflex, R. B. Model B, f:4.5 in excellent condition. \$42.50. Dr. S. Tashma, 6510 Delmar Blvd., St. Louis, Mo.

◆Elwood 5x7 enlarging machine in good condition. Equipped with Eastman f:4 lens, \$20.00. Jack Bailey, 1615 West Louise St., Grand Island, Nebr.

◆ $2\frac{1}{4} \times 4\frac{1}{4}$ Agfa Standard Rolifilm Camera No. 255S, f:4.5, $1\frac{1}{2}$ cm. focus, anastigmat lens in new Compur shutter, lists for \$45.00, excellent condition, \$25.00. H. T., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Press Graflex Camera outfit complete with lens \$85.00, without lens \$50.00. Korona 8x10 Home Portrait Camera, 2 holders, Verito lens \$55.00, without lens \$29.00. C. Quan, Box 243, Jerome, Ariz.

◆ $3\frac{1}{4} \times 4\frac{1}{4}$ Ruby Reflex DeLuxe f:3.5 Cooke lens, Plaubel Telephoto lens, 4 holders and pack adapter, cost \$250.00, perfect condition, sell \$150.00. E. W. Simmons, 139 Central Ave., San Francisco, Calif.

◆ $3\frac{1}{4} \times 4\frac{1}{4}$ R. B. Graflex Series B, Kodak Anastigmat f:4.5, 6 $\frac{3}{4}$ " film pack adapter, and case, new condition, \$60.00. H. M., c/o Camera Craft, 703 Market St., San Francisco, Calif.

◆Simplex Pockette 16 mm. Like new, sacrifice, \$19.50. B. Mounce, 509 Prijo St., Lake Charles, La.

◆ $3\frac{1}{4} \times 4\frac{1}{4}$ R. B. Auto Graflex, fitted with $8\frac{1}{2}$ " Carl Zeiss Tessar f:4.5, one cut film magazine, filmpack adapter, combination and filter holder, with K1, K2, G, and X filters, pictorial diffusing disc, and leather case, like new. List approximately \$250.00, will sell \$135.00 cash. O. E. F., c/o Camera Craft, 703 Market St., San Francisco, Calif.

BARGAINS in new and used movie and still

equipment. Old equipment accepted in trade or purchased outright. Send for bargain list.

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◆Voigtlander Bessa $2\frac{1}{4} \times 4\frac{1}{4}$; f:6.3 lens; leather case; condition perfect; \$11.50. Sharman, 165 Post St., San Francisco, Calif.

◆Graflex, 4x5 Series B, Kodak f:4.5 lens, pack adapter, carrying case, Justphot Exposure Meter, first class condition, \$70.00. T. Major Edgecomb, State Theatre Bldg., Red Bluff, Calif.

OUTFITS WANTED

◆Good used Bell & Howell Eyemo 35 mm. motion picture camera. Must have 24 frames a second speed and cheap. Harry Elliott, Box 111, Klamath Indian Agency, Ore.

◆4x5 Korona Pictorial View Camera with or without lens. Jalmer Eliason, 105-12th St., Cloquet, Minn.

◆4x5 Speed Graphic, recent model, with or without lens, must be as new; state cash price. Emile Devolder, 62 Queensberry St., Boston, Mass.

FOR SALE OR EXCHANGE

◆Dallmeyer 3A Portrait Lens, Voigtlander Collinear $14\frac{1}{2}$ " focus, Xenar f:3.5, 6" in Compur, Vellostigmats 4-3/10 and 5-4/10" focus f:9.5 wide angles in Betax shutters, Tessar $7\frac{1}{2}$ " f:4.5, and several others. W. Quackenbush, Granger, Minn.

◆Zeiss Ideal B 9x12cm. and $3\frac{1}{4} \times 4\frac{1}{4}$ Tessar f:4.5 in compur, 9 plate holders, adapter, filter, etc. Want Kodak Reocomar $2\frac{1}{4} \times 3\frac{1}{4}$ with case, etc. A. A. Adams 551 Woodward St., El Centro, Calif.

◆ $4\frac{1}{2} \times 6$ cm. Atom Zeiss lens, F.P.A., 2 dozen P. Holders, P. Magazine, and outfit, cost \$170.00. Want a Roliflex. J. Dlouhy, 2427 So. 62nd Ave., Cicero, Ill.

◆Rubber boat, ten foot, two passenger, complete with inflating pump, takedown oars, carrying case. Weight, 17 pounds. Ideal for pack trips to mountain lakes. Trade for 5x7 Graflex, Leica, or 12 gauge Browning. O. E. Hopfer, 1562 Trestle Glen Rd., Oakland, Calif.

STUDIOS FOR SALE

◆Studio located in suburbs, 30 miles from Los Angeles, 6 to 8000 population. Low rent, fine equipment no other photographer. Fine home and acre also. Must go East. K.B.B., c/o Camera Craft, 703 Market St., San Francisco, Calif.

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"A La Gare"
William Mortensen

Costume Elements

William Mortensen

IN an article in "The Mask" several years ago, Hilaire Hiler drew attention to the important difference between the two concepts "Wearing Apparel" and "Costume". The former is concerned only with material aspects of the problem: with clothes for utility and warmth, with clothes as a matter of ethnology, with the textiles and stuffs that go into clothes, with literal historical accuracy as to date and "period". "Costume" on the other hand, is concerned with matters of thought and idea: with the expressive values of clothes, with clothes in relation to gesture, with clothes as decoration, with clothes as an expression of national character, with the spirit and not with the letter of historical periods. Specialists who are anxious about the precise colour of Caesar's toga and the exact circumference of Queen Elizabeth's farthingale are dealing with "Wearing Apparel", not with "Costume". "Costume" is concerned with the ideas involved in these and all other garments, and with their capacities for emotion and expression.

It is from failure to make this important distinction between "Wearing Apparel" and "Costume" that many efforts at the use of costume in pictorial photography come to grief. With a rented costume of guaranteed historical authenticity the photographer goes to work and produces an excellent topographical map of the seamstress' art—but very seldom a picture. In Hollywood hundreds of research specialists toil at reproducing with complete fidelity the costumes of other times and other places, and the warehouses bulge with the fruits of their labours. But usually in the grandiose spectacles of the screen the costumes simply represent an appalling yardage of textiles, devoid of life and spirit and of any sense of the real *meaning* of the garments. The costumes seem a heavy burden that the sweating actors bear more or less patiently.

In the early days of my photographic career I worked several years for the largest costuming company in the West. Here, I imagined, would be found a magnificent opportunity to secure some real pictures. With eleven floors crammed with an almost unlimited stock of magnificent and



Fig. 1—
Costumers Costume

authentic costumes it seemed as though one could not fail to secure something worth while. But during this period I scored practically a hundred percent of failures. Figure 1 shows a specimen of my product at this time. (I also took about 3,000 others, many of them much worse than this.) Notice what has happened in Figure 1. We have a picture of a costume, in the midst of which there is incidentally included the placid and non-committal countenance of the girl who is wearing it. What the costume means, or was intended to mean, I cannot at the present writing venture to state. If the picture inspires any reaction at all it is the thought that you might lift the figure and discover a telephone underneath. Most efforts at using a costumer's costume of literal accuracy result, as this picture has resulted, in the complete swamping of the subject in the costume.

After producing several thousand pictures of about the same calibre as this, it became evident to me that access to costumes might be more of a hindrance than a help in the making of costume pictures. A costume that is already made is a fixed entity and is susceptible to very little alteration without damage. It is usually made rather as something to look at than to move in. Materials and patterns are frequently too conspicuous, and there is a tendency to use pictorially extraneous detail.

Though costume forms and mutations are many, the *elements of costume* are few and simple. Structurally, costume is merely pieces of cloth that are variously attached to and draped about the human frame.



"Flemish Maid"

William Mortensen

outer dress or apron. (*Women of Arles: January, 1935.*)

3. Two pieces of black velvet, the smaller twelve by eighteen inches, the larger one yard by two yards.

The smaller one, variously folded and shaped, is used for Medieval and Renaissance headdresses and caps. (*Niccolo Machiavelli: June 1935; Marco Polo: January, 1934.*) A frequent incidental use of this small piece of velvet is to fill in the disturbing open triangle that occurs between the body and arms when the elbows are spread. The larger piece may be used for building a bodice or as a shoulder drape. It is also of sufficient size to be used as a black background for a head study when desired.

4. Three scarfs of rather elaborate or even gaudy pattern.

These are used in small sections where an accent of detail is desired. Such accents should be carefully placed with relation to the structure of the body. These scarfs may serve for Gypsy or Oriental headdresses, for girdles about the waist, or even for constructing a bodice. Note their use in *Stamboul* (girdle), and *Flemish Maid* (headdress).

5. One woman's underdress combining petticoat and bodice. Its colour should be just off white.

One long-sleeved blouse of unbleached muslin, with a round gathered neck.

These two are the only actual *garments* included in the list. But they are both sufficiently generalized in form and free from suggestion of period to admit of the extremest manipulation. The sleeves of the blouse may be tucked up or allowed to hang loose. The drawstring in the neck permits of further adjustment: it may be loosened till the shoulder is uncovered. (*Adelita: January, 1935*), or it may be closely drawn (*Flemish Maid*).

With the addition of distinctive details, the long underdress may be made to serve as the basic garment for peasant types from all parts of the world, Oriental women from North Africa and the Levant, peasant girls from Central and North Europe, Mexicans and South American Indians. This garment was used for *Women of Arles*. (January, 1935). It has also been found useful for direct and simple portraits of young girls. The round neck-line is very flattering and carries out the suggestion of youth.

6. Three grey drapes, each 40 inches wide and two yards long.

These have served for skirts and have also contributed to Oriental costumes in several religious subjects. (*Lazarus II., Lazarus III., May, 1934*).

7. Three pieces of ivory-colored lace. Two of these are six inches in width and eighteen inches long, and the third is twelve inches wide and a yard long.

The smaller pieces of lace may be used for delicate headdresses on women, and the larger one for a *mantilla*. They also may be employed in the construction of bodices of various periods and places. With the addition of a little starch and a drawstring the lace may be converted into a ruff for Elizabethan or Dutch costumes. The lace may also be used, like the scarfs listed in (4), as an accent of detail.

8. Several items of hand-wrought jewelry.

Excellent costume jewelry for photographic purposes may be made

from plastic clay painted with bronze gilt. Useful items may also be gleaned from the counters of the "Five and Ten". The following list is adequate for most purposes:

Two necklaces, one of the choker type, one long enough to make a double chain.

Two rings of good size.

Several glass bracelets.

Two brass wristlets.

One heavy gilt or bronze chain, two feet long.

This completes the list of costume elements. I have on occasion used numerous other costume items for specific effect—Spanish shawls, daggers, small "hand properties", etc. These are not included in the list as they are not sufficiently generalized to be regarded as elements.

There are a few purposes for which these costume elements will not prove of use. Military costume, of course, demands accuracy of detail: such accuracy is, as a matter of fact, the very essence of military costume. But accuracy of this sort is rarely pictorial. Costume in a picture should be *generalized* and *universal*. In creating a Medieval costume, for example, from the elements listed above, we do not strive to reproduce a particular dress that was worn in a particular place on a particular day in the year 1259. Rather the effort is to suggest, with as few elements as possible and with as little literal detail as possible, the general feeling of the period.

The same rule of *universality* applies to the use of characterization in pictures. Unless a characterization is recognized as a version of a universal type, it has no meaning to us. Similarly if an attempt is made to portray a particular historical character, it should be done in terms of that character's symbolic significance. A character that in the general mind has acquired no such significance would have no meaning in a picture. Casanova, for example, has ceased to be a man and has come to be an idea. So a picture would represent him as one who would be just as efficient in a modern penthouse as he was in Henriette's boudoir. Similarly, Niccolo Machiavelli would fit into a cut-away and top hat and, with the same non-committal smile, attend diplomatic sessions at Geneva. But to portray Niccolo's obscure father, Bernardo, no matter how perfect the likeness, would make no sense pictorially.

One who uses these costume elements for the first time will probably be discouraged by their appearance. Their color is uninteresting, and to the naked eye they clearly reveal their miscellaneous origin. Learn to regard them *photographically*, in terms of greys and half-tones. Examine the costume frequently, during the course of its construction, through the blue glass and in the ground glass of the camera.

In devising a costume with these elements, plan it in terms of a few concise and significant items. Lay out the elements you contemplate using where they may be readily reached. Build up the costume gradually, element by element. Take plenty of exposures of all stages: sometimes the simple earlier version will furnish a better picture than the completed costume. If any pose or expression looks interesting, take the picture, even though the costume needs adjusting. Frequently in making such an adjust-

ment the desired quality will be lost. In the final stages, study the composition of the elements carefully in the ground-glass, make numerous readjustments and alterations, and take exposures of all variants.

Figure 2 shows all the elements used in costuming the *Flemish Maid*, viz.,

- a. Blouse.
- b. Three scarfs.
- c. Brocade drape.
- d. Two pieces of lace.
- e. Jewelry, consisting of choker necklace and four bracelets.

The procedure of building up this costume was as follows: The blouse was put on, with the sleeves tucked up and the gathered neck drawn fairly close. A wide scarf was tied about the hips. The headdress was built of two pieces of lace and a scarf laid over the head. With this much of the costume in place, the model seated herself and the piece of brocade was adjusted over her lap. Several exposures were made. The arm of the chair was then partially covered with another scarf and the jewelry added. More exposures were made with various arrangements of the bracelets and various positions of the arms and head. Finally, to give point to her gesture, the knitting needle or bodkin was placed in her hand. This is in reality nothing but a twig plucked from a bush outside the door.

Small hand properties such as this are so integral a part of the pictorial conception that they are properly regarded as a department of costume. They are so diverse that they cannot be reduced to elements, but they can frequently be improvised from improbable materials, as in the case just mentioned. Along with certain items of jewelry, hand properties have the ability to sharpen gesture and to bring it to a climax. *Women of Arles*, (January, 1935), would be completely empty without the basket. In *Human Relations*, (April, 1934), note how the wristlet increases the power of the out-thrust arm. A good costume is intimately related to gesture, prolonging and emphasizing the expressive movements of the body.

The study of costume is important to the portrait photographer. It is possibly somewhat difficult to acquire the perspective that regards modern clothing in terms of "Costume" rather than "Wearing Apparel"—to revert to Hilaire Hiler's terms. But a portraitist who has accomplished this has gone a long way toward improving his product. He who sees clothes as something significant and decorative rather than something contemporary and utilitarian will no longer tolerate in the clothes of his sitters such characteristics as contrasty patterns, conspicuous detail, awkward necklines, and many such things that vitiate otherwise excellent portraits. The discovery of the "Costume" quality of modern clothes will greatly change his treatment of them. A derby hat may be made just as significant as a Roman helmet, if he knows how to go about it.

The pictorialist who is interested in costume will, of course, familiarize himself with the subject. If he is wise, he will approach it from the pictorial rather than the scientific angle. Not costume plates, but the work of the great painters of the past should be his study. By these men he will find

Print Quality- How To Get It

Haden Hankins and Wray Selden

Part II

IN our last article we said that the first fundamental step towards achieving print quality was to develop your negative to fit the contrast of the paper you intend to use. Before we take up the second fundamental rule, let us delve briefly into paper characteristics.

Image Color and Quality

D. O. P. papers, when normally and properly handled, produce images which are primarily black in color. The exact tone, however, depending apparently upon the character of the emulsion with which the paper is coated, varies from pure black on most white papers through shades of warm black to an image which, on certain grades of buff stock, is almost brown. It seems that the exact normal image color is fixed by the paper manufacturer and that it is of such a character as to harmonize pleasingly with the color of the paper stock on which the emulsion is coated. This is to say that a cold black color may be expected on a pure white stock while a cream-white or ivory stock may be expected to yield a warm or brown-black image.

It is important that the operator be familiar with the normal image color of each paper he uses in order that he may readily detect deviation from normal whether this deviation be the result of accident or deliberate intention. It may be safe to assume that the tone produced upon a given paper is the correct one when the manufacturer's rules are followed and the prescribed formulae are used, but perhaps a safer criterion is the examination of factory samples when they can be obtained.

Image quality, considered apart from image color, is a property not easily described or defined; and only through experience can it be understood and appreciated.

It will be found that the great majority of contact and projection papers will give prints of satisfactory quality if correctly handled, that is, if the negative and paper contrast are well balanced and the exposure and development of the print properly carried out.

There is a widespread feeling prevalent that this is not true of all makes of bromide paper. Many feel that bromide paper tends to produce greyish prints which lack slightly the full body and tone contact prints have. We do not believe that this frequent greyishness is due as much to the paper as to poor manipulation.

Experience indicates that there must always be a difference in quality between an enlargement and a contact print, but this does not mean that the quality of an enlargement is necessarily inferior to that of a contact print. A steel engraving and a wood engraving are most dissimilar in quality, but no claim can justly be made that either is of greater merit than the other. The quality of an enlargement can always be equal to that of a contact print and it may often be superior. In addition, the greater ease with which projection printing may be controlled is often an important factor.

As has been explained, the material in use determines to a certain extent the image color and quality of the finished print, but this is of minor importance when compared to the part played by exposure and development. Assuming that a good negative is used and that the selected paper is suited to it as to contrast, then the fate of the finished print is solely a matter of manipulation.

Second Fundamental Rule

D. O. P. papers exhibit a most valuable characteristic in that they may be developed to finality. The image in development will build steadily up to a certain point and then seemingly cease developing altogether. This point of development finality is the safest criterion by which to judge print development, *as incomplete development is fatal to image color and quality.*

Prints should be permitted to remain in the developing solution until no further change in the image is noticeable, that is, until development appears to stop; and if at this point the print is too dark, the fault is in the exposure, which should be shortened. Conversely, of course, if the print is too light, exposure should be increased.

Too many beginners are too impatient and have a strong tendency to give too much exposure and develop the print only until it appears about dark enough and then jerk it out. In developing, the print passes through a series of indefinite color changes and not until development is complete does the emulsion arrive at the full beauty of its normal color and tone. The second fundamental rule in achieving print quality, then, is always develop your print completely. (Of course, development can be carried to the extreme so that the paper is fogged. This must be avoided.)

Manufacturers give formulae and average time of development in nearly every package of paper. You will find that development can usually be prolonged to double the length of time given by the manufacturers without chemical fog. With the addition of restrainers such as potassium bromide in the developing formula, they may be developed much longer. However, it is wise to try to standardize all your procedure to normal, because it is correct exposure and full development that gives that beautiful luminous quality we all desire.

Speed of development is dependent upon several factors: the kind and make of paper used and the character, strength, and temperature of the

developing solution. If all of these factors could be kept constant, it would be easy to arrive at a definite developing time, but for the average person this is hardly possible or even desirable; and it is necessary therefore, to rely upon development finality as an indicator of full development. And, it cannot be repeated too often, unless full development is given, poor print quality and color will result.

Sometimes it is suggested that paper contrast may be altered slightly by adjustment of exposure and development time. That is to say, by increasing the exposure and shortening the developing time, softness may be secured; and by decreasing the exposure and prolonging the development, contrast may be obtained.

Such attempts to adjust contrast should be discouraged as they are most uncertain and usually result in prints of poor quality. It is far more satisfactory, when contrast is faulty, to find a remedy in a paper of a different contrast or in the use of a harder or softer developing formula.

In the photographic press a great deal of stress is laid upon using the developing formulae which are recommended by the manufacturer of the paper being used; and the beginner is advised not to attempt to 'improve' these formulae in any way.

This is undoubtedly sound advice and if followed, will produce satisfactory results; but if one is prompted to use a variety of formulae with one paper or a variety of papers with one formula, he need not hesitate to do so. However, in each departure from prescribed procedure results should be carefully noted and considered in the light of such departure.

Since development is the result of chemical action between the silver salts of the emulsion and the developing agents, obviously temperature governs the speed of development; and this, conceivably, affects the image color and quality of the print. If the best quality is to be obtained, it is advisable that the developing solution be kept between 65° and 70°, with a preferred temperature of 68°. Most beginners realize the importance of correct solution temperature in the development of their negatives but few pay any attention to temperature when it comes to making their prints.

With use, developers undergo considerable alteration. The by-products of development and exposure to air gradually accumulate until a point is reached at which these substances materially affect the color and quality of the print.

It is essential, therefore, that developing solutions be used as fresh as possible; and care should be taken that they are not overworked. Another important item to consider is the deterioration of developers in stock solutions. This is largely the result of oxidation and takes place very easily in incompletely filled stock bottles. To avoid this condition, it is wise to prepare frequently small quantities of stock solution which will be used up rapidly, rather than to prepare large quantities which will be kept for a relatively longer period of time. Large quantities of stock solution may be kept successfully; but it is necessary that the solution be stored in a number of small brown bottles, filled completely and tightly stoppered.

Paper Surface

Paper surface plays an important part in the general effect of the finished print. In attempting to consider this phase of print making, we are treading on dangerous ground, since the selection of a particular sur-



"Green Hills of California"

R. F. McGraw

Fifth International Salon at San Diego

face of paper is dictated by such incalculable things as personal tastes and individual ideas concerning what constitutes suitability.

It is, therefore, impossible to lay down any rules whatever in this respect. A few general suggestions only can be made.

Two factors seem to govern the use of a particular paper surface for a particular picture and these are: character of the subject and size of the print.

Surface texture has a decided bearing upon detail renditions. Smooth paper brings out all the fine detail in the negative while coarse textured or rough paper tends to subdue this detail by breaking it up.

It follows then, that if the picture's appeal is in a delicate rendering of fine detail, a smooth surface paper is needed. On the other hand, if the composition is one composed of broad areas and masses or if you want to subdue the detail, coarse textured paper will be better suited for the print in question.

In attempting to convey a feeling of great delicacy and refinement and to portray subtle graduations of light and shadow, smooth papers are necessary, while rough papers are valuable in heightening the impression of boldness, strength, and vigor.

Therefore, it is important that the surface texture and its effect upon

the eye as well as its appropriateness to the subject be taken into consideration when selecting paper for the print.

It is hardly necessary to point out that coarser textured papers may be used with larger prints than with small prints since essential detail, being more evident in the large print, is not so easily subdued.

In this connection, it may be observed that in large prints the detail subduing quality of rough papers may be taken advantage of to eliminate grain. The effect is quite surprising at times. While the print is still in the fixing bath or wash water, the liquid minimizes the effect of the surface texture and it may appear to be quite grainy but you may often find that upon drying this graininess has been rendered invisible by the rough texture of the paper itself.

To make good prints, the actual materials and apparatus used are of far less importance than a complete understanding of them. In an earlier day in photography, masterpieces of photographic art were made on color-blind film with lenses possessing almost every possible optical error. Those early workers did not possess the multitude of refinements in materials and equipment we have today but they knew what they wanted; and, what is of equal if not greater importance, they understood their materials so well that once the idea for a picture was conceived, apparently they were not hampered by technical inadequacy.

The pictorialist is an artist who has chosen photography as a medium for the expression of his ideas and the technique of photography is the language of his expression. Unless he develops a proficiency in manipulation so that his ideas will be expressed smoothly and fluently, he fails as an artist, no matter how good or how original his inspirations may be.

Making Individual Film Slides *

Arthur Purdon

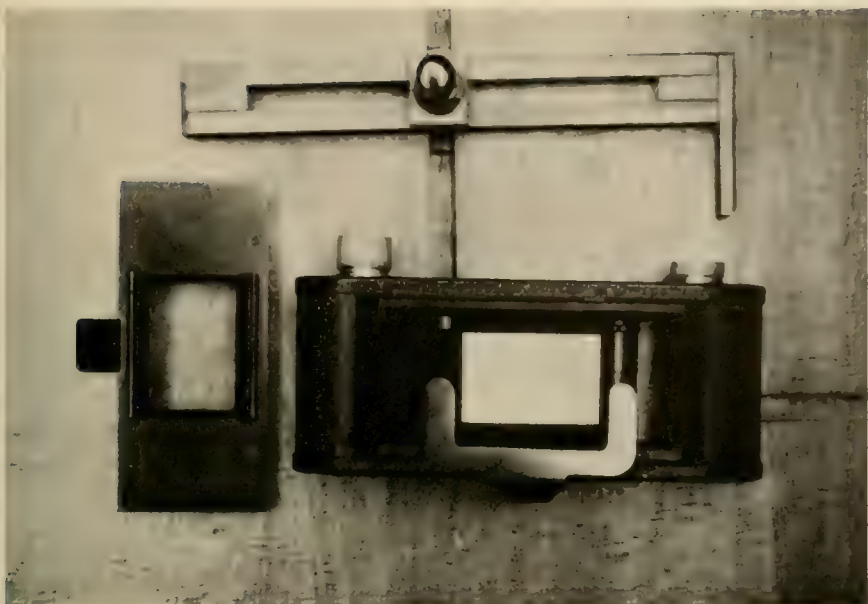
AN individual film slide is one made on a piece of positive film about 2 inches long, individually exposed and developed.

The object is the production of a positive for binding between cover-glasses or from which a paper negative may be made, or to modify contrast and/or density in a negative by making a positive, and then a new negative, controlling the exposure and development contrast of both. A notable control is possible. Hopelessly "hard" negatives may be softened, and vice versa.

The advantage is the easily controlled contrast of an individually developed positive, later explained. Development in the strip imposes identical development for all frames regardless of varying contrasts (those of subject or development) of the negatives.

All positives are produced by projection, for two reasons—"trimming"

*This article first appeared in *Leica Photography*, and is reprinted with permission of the publishers.



Printer (center) with cover removed, showing white celluloid focussing surface. Printer cover, inner surface uppermost is at the left. The "locator" (at the top) shows the construction permitting shift in position. The printer, in use, rests against the face and end-strip of "locator."

by using only the desired portion of negative and elimination of lint and dust.

For the older (FILOY) enlarger, projection printing will require an extension tube (which can be made by any camera repair expert) internally threaded on one end to take the enlarger lens and externally threaded on the other to fit the focussing tube. This tube to extend lens position by about one inch. Current enlargers using camera lenses can be similarly adapted by adding an extension about one inch long, available from copying or close-up attachments.

Extending the regular position of a 50 mm lens by about one inch permits a projection range of from 1:1 ratio to about $2\frac{1}{2}$ times enlargement. For the rare cases of greater enlargement, remove the extension tube.

To secure controllably long exposures (average, 5 seconds) a square of opal glass must be laid over the enlarger condenser if the regular 60 or 75 watt lamp is used, or an ordinary 25 watt lamp (remove trade mark from tip with steel wool) substituted.

Focussing will be a trifle difficult because of small size and comparative dimness of image, but as lens must be closed to the smallest stop for exposure, critical sharpness is not required, due to great "depth" of fully closed lens at the very low magnifications involved. In fact, the "depth" is so great that image size is largely controlled by movement of focussing tube only.

For focussing, composing and holding the positive film an ELDIA printer is used, thuswise: A $15/16 \times 1\ 7/16$ inch (approx. 24×36 mm) piece of white celluloid is fastened to the felt covering (with shellac)

immediately beneath and conforming to the area of the glass window. The image is focused and composed directly (not thru the glass) on this "easel". The printer is positioned or located by the home-made gadget shown in the sketch. The "locator" clamps to the enlarger base-board by one of the regular T-slot clamps. The printer rests against the face and end-piece. When the cast image is positioned where wanted, the clamp is tightened. After loading, the printer will be returned to the correct position, thanks to the "locator".

The printer is loaded by cutting off a strip of positive film about 2 inches long and sliding it—emulsion against glass—into the small channels on the long sides of the glass window. Close the printer, place on enlarger base and expose. The white celluloid beneath the film apparently causes no halation. Immediately before loading film, brush off dust with soft brush. Also brush both faces of the glass window.

The developing solution is D-72, diluted as for bromide papers. Two ounces—60 cc—of developer in a small dish is convenient. A "Pyrex" muffin "tin" has served splendidly. A perforated margin of the film strip is gripped by a Kodak Junior No. 1 clip—to hold the strip flat and to form a handle—then plunged into the developer. Eastman makes small clips of the "clothespin" type with very small pointed jaws on the business end and a hook—for hanging—on the other. X-ray hangers, I believe they are called. At the end of development, close the jaws of such a clip thru a perforation (removing from the large clip) hang film in fixer, suspending from a string or rubber band stretched over the hypo container. The clip stays on the film thru fixing, washing and drying. Not only are the clips with their hanger hooks convenient, but they avoid handling the film. When the film is first put in the developer rub the emulsion side with a finger tip, wad of cotton or such-like to dislodge bubbles.

The control of contrast in development is a matter of development time and exposure. Regardless of contrast of negative—either subject contrast or contrast from unsuitable development—cut test slips of positive film about $\frac{1}{4}$ inch wide, place diagonally on celluloid "easel" (do not waste time by putting glass in place) and time the first faint appearance (during development) of the image. At 68°—15-20 seconds is correct for a positive for projection. If the negative/subject contrast is normal, the strip should be developed for 4 minutes. If the contrast is low, snap up the positive contrast by giving 7/10 of the ascertained exposure and develop for 6-7 minutes. Fog is liable to occur with longer development—anyway the maximum possible contrast will be reached in about 6 minutes.

For "softening" the positive from a contrasty negative, give 3 times the test exposure and develop for one minute.

While the control of contrast is useful in correcting the negative contrasts resulting from incorrect development, the principal value is in compensating the subject contrast, of average-developed negatives, a matter that tank development of strips cannot cope with. The figures for exposure ratio/development time cover normal, extremely low and extremely high contrast negatives. Each worker will find variations necessary to suit negatives that are not extreme.

Fix in ordinary acid fixing bath for 5 minutes, wash for 20 minutes. Dry by blotting between folds of wrung-out chamois. Dry in a clean place.

The World's Largest Camera

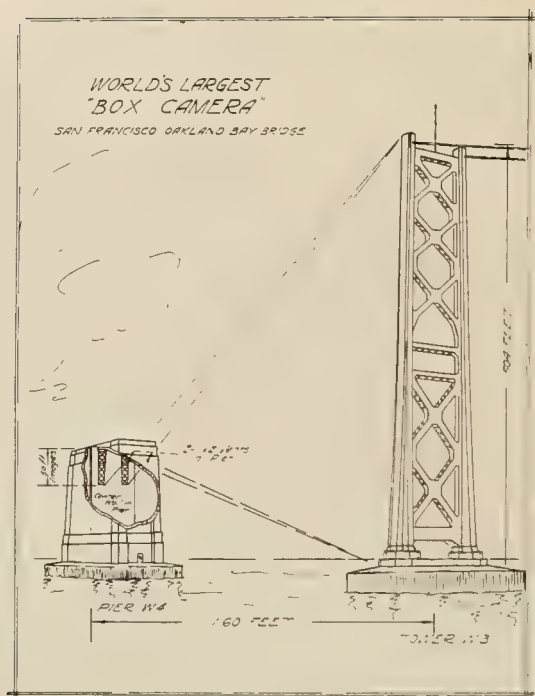
Charles D. Raudebaugh

ENGINEERS who designed the gigantic San Francisco-Oakland Bay Bridge justifiably feel proud of their work. But as they drew the complicated plans for the structure, not one of them knew that in addition to building the greatest bridge in the world they were building the largest camera in the world.

It is constructed not of wood or metal, but of concrete, reinforced with steel beams. It has two lenses—you see, the camera is a stereo—one foot wide by two feet high, with a focal length of 115 feet. And the focal area



Looking eastward across San Francisco Bay, showing center anchorage between first and second towers from the right. 1/10 sec. at F:8, on Defender S.S. Pan., with A filter.



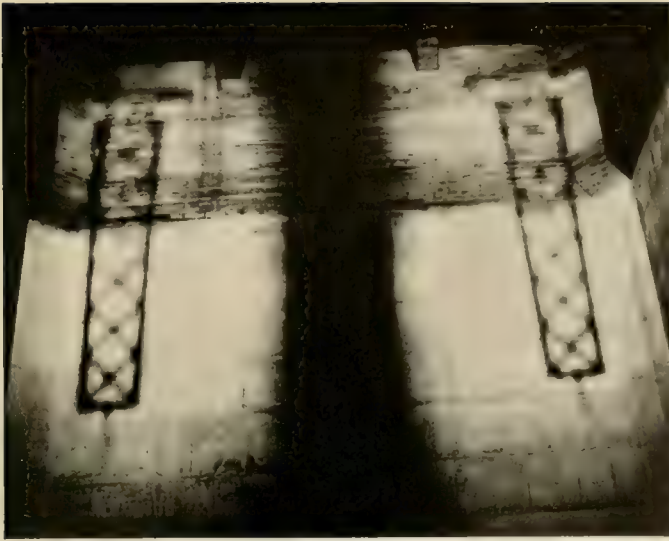
*Artist's Drawing
Showing Operation
of World's Largest Camera*

accommodates images more than 50 feet high! Its description sounds like the nightmare of a miniature camera owner.

The huge camera is that immense block of concrete, lying midway between San Francisco and Yerba Buena Island. The distance between San Francisco and the Island was too great for one suspension bridge, so engineers decided to span the distance with two bridges, end to end. In order to anchor the cables which will support the bridges, they erected a gigantic concrete cube in the center of the bay. To steel beams embedded in its sides will be fastened the cable, and on its top will rest the road level of the bridge. The interior of the anchorage is rectangular and hollow except for a center partition which divides it into two squares measuring approximately 115 feet on a side. Vertically, the interior is divided into thirds by narrow concrete shelves.

It was on the second "shelf" that Chief Engineer Charles H. Purcell discovered that the anchorage was the world's largest camera. Purcell was on a tour of inspection, and was looking at the perpendicular center partition when he thought he saw something white move across it. There are no records to this effect, but it is logical to assume that he blinked his eyes and looked again. Then he saw that the image of a ferryboat, upside down, was floating gaily across the concrete wall.

By getting as far back from the partition as possible, Purcell found himself able to take in the complete field of the image on the wall. Not only was there a ferryboat, and the bay, but there was an image of the nearest



*Dual image of bridge tower formed by world's largest camera.
20 mins., at F:4.5, Defender S.S. Pan.*

bridge tower. As a matter of fact, there were two images of the tower on the wall, side by side.

Investigation showed that the images were formed by two tiny air vents near the top of the anchorage. The vents—measuring a foot in width and two feet in height—were acting as pinhole lenses, and the entire structure was acting as a gigantic stereoscopic camera. By mere chance, and, of course, without engineering premeditation, the central anchorage was the largest “camera obscura” ever built by man.

A glance at the plans gave dimensions. This gigantic camera had produced a fifty-foot image of a steel tower, 504 feet high, and 1,160 feet distant. The pinhole lenses had an f : value of approximately 115.

With an aperture of f : 115, the image is necessarily dim, even on the brightest days. The interior of the anchorage is so dark, however, that by the time one has climbed to the second level his eyes readily perceive the images. When sunlight plays directly on the tower, its color is clearly perceptible on the concrete “ground glass” of the big camera.

It would be impossible to expose a piece of film or paper on the focal plane. The images are thrown high on the partition at a point missed by the narrow steel stairway on the inside of the anchorage. All one can do with the huge camera is to look at the images, and marvel.

As a key to the dullness of the image, it is interesting to note the photograph accompanying. The photograph was taken with a 4x5 inch speed graphic camera, using a 13.5 cm. Zeiss Tessar f : 4.5 lens. I could not get an image at all on the ground glass of my camera, and had to center the subject with the wire view finder. The exposure—made on a tripod, of course—was twenty minutes at f : 4.5, on Defender X-tra Fast Panchromatic film.

Efficient Masks For Projection

Owen C. Andrews

HOW often have we wished and yearned for that ideal enlarging mask? The mask that "stayed put" throughout a series of exposures; the mask that never slipped; that always produced uniform white margins all around; that aided, rather than hindered fine focusing; that co-operated with us in squaring up the picture; that exactly framed the part of the picture wanted; and was just right for our favorite sizes of printing paper?

Of course, there are many devices to be had, in varying degrees of complexity, that do one or several of those jobs. However, the one that will do them all, and do them well, is the lowly book type mask, which is as simple as two pieces of paper. Such simplicity is not to be ignored in a dark-room, but where may they be had? They are not advertised, not displayed at the shops, nor listed in the supply catalogues. Apparently we must make our own. However, they are really easier to make than the following instructions are to read.

If the method of making an 8x10 size (which allows for $\frac{1}{8}$ inch white margin) is described, the proper procedure for making other sizes or margins will at once occur to you.

You will need two kinds of paper stock. A medium heavy, colored, cover stock is excellent for one. It may be any color, though blue or gray is best as it is the right contrast to the orange or red dark-room light. The other material may be very heavy paper or light cardboard. In any event it must be smooth and white.

Cut a square of each 12 inches by 15 inches. Lay the colored piece upon the white so their edges match and fasten them together at one end only, using glue or paper staples.

Lay the "book", as it may now be called, face up (that is, colored side up) on a drawing board and lay out a rectangle on the colored sheet $7\frac{3}{4}$ inches by $9\frac{3}{4}$ inches and about two inches from the open end. This is to be the long way of the sheet. Cut out this square with a sharp knife and a straight edge, but do not cut into the white stock beneath. With a sharp pencil, lightly trace the edges of the opening just made, onto the white material.

If a score mark is creased into the colored paper clear across the mask and one inch from the fastened end, the top piece may easily be raised up (from the open end) and folded back on this mark. Gently crease the fold so mask will lay back out of the way.

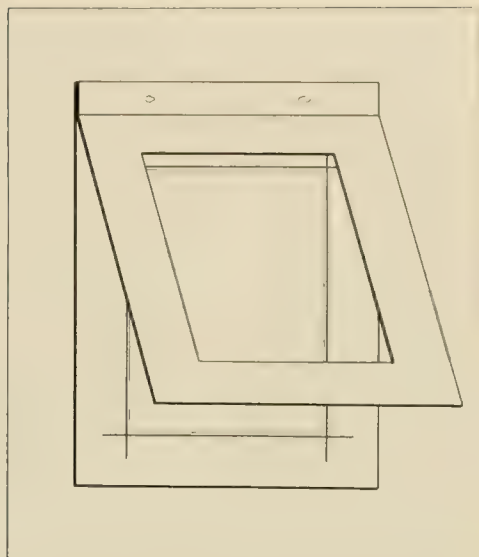


Fig. 1

On the white card, measure off another rectangle around the outside of the traced outline and $\frac{1}{8}$ inch from it. Draw these lines in strong and black with ink. Run each line past the corners an inch or more. We now have an outline 8x10. Of course, when 8x10 printing paper is laid upon it, the outline may be obscured but the extended corners will guide one in centering the paper, with even the dimmest light.

Now with a couple of thumb tacks, or best of all, glass headed push pins, the job is complete.

To use: drop the cover down flat over the white card and move the mask about under the enlarger until it frames the picture exactly as you want it. The smooth, white stock gives the brightest possible image and makes fine focusing easy. The colored edges of the mask definitely indicate the picture area, at the same time showing but dimly those parts of the picture being masked off. A not unhandy feature. When satisfied with the placing, secure the mask to the copy board with the push pins. Of course, this must be done in the one inch area back of the hinge. Now fold back the mask cover, turn out the enlarger light and register the bromide paper to the corner marks drawn on the mask. Hold the paper in place with one hand and drop the mask cover in place, over it, with the other. If a ruler or some such weight is laid upon the outer edge of the mask you may rest assured the paper will not move, despite any shading you may do during the exposure.

For the horizontal type of enlarger, a small addition to the mask is necessary. Two narrow strips of thin cardboard are pasted together so that one overlaps the other by a sixteenth of an inch. This is pasted onto the mask in register with the outline drawn across the open end, thus forming a tiny shelf or trough for the bottom edge of the printing paper to stand up in. Obviously the mask is fastened to the copy board hinge uppermost. A third push pin lightly stuck through the bottom edge of mask cover will finish the trick.

Selling The Contact Print

William S. Smith

ONE of the best paying and, at the same time, one of the most overlooked fields to which the amateur photographer can turn his talents, is that of selling contact prints.

When I speak of it as a well paying field, I don't wish to give the impression that it will reap one a fortune. On the contrary, it has its limitations, but there is an opportunity for the better-than-ordinary amateur to make his hobby pay its own way.

Naturally, contact prints do not bring the price from a friend or neighbor that the familiar "8"x10" glossy" may bring from an editor, but, on the other hand, there is practically no expense in marketing, no uncertainty while waiting for replies to submitted photos, and no outlay for enlarging.

When first I began taking pictures in earnest, in the spring of 1933, I had no thoughts of making any more than just a hobby of it. Since then I have made the astonishing discovery that people like my pictures well enough to pay perfectly good money for small prints from them.

I started out that first summer to get myself a set of pictures of the Century of Progress Exposition, the second world's fair to be held in Chicago. Because I was living only an hour's ride from the exposition grounds, I saw no reason why that set shouldn't be a nearly complete one. I figured that I might never again have a world's fair plunked down right in my front yard, so to speak.

I had no camera of my own, nor did I have the money to get any sort of a good one. That was problem Number One. My father, however, had a reasonably old Eastman 3A Autographic Special, one that took pictures of postcard size, $3\frac{1}{4} \times 5\frac{1}{2}$. I borrowed it.

And because I really wished to get good pictures, I abandoned roll film, instead equipping the camera with a ground glass back and a couple of plate holders, with sheaths for cut film. I wanted to study my pictures before I pulled the trigger. Armed thus, I set out.

By the closing date of the 1933 fair I had accumulated 165 different negatives of the buildings and activities on the grounds, both daytime and nighttime views. But long before I had finished my project, friends and acquaintances who had seen some or all of the pictures began to ask for reprints of them. (See Fig. 1)

I was a bit slow in catching on. Finally, though, it dawned on me. If they were willing to pay the price of a print, why shouldn't they be



Fig. 2—The author's "best seller." From this print of the Greenwood Inn (Evanston, Illinois), he sold 108 copies, all in contact print size, 4x5.

willing to pay a few cents more? The difference would be my profit, a mighty handy thing to be having when I realized what my own pictures had cost me.

In a little less than three months I had sold nearly four hundred postcard-size prints, with a profit on each one of $5\frac{1}{2}$ cents. It wasn't such an enormous amount of money, but it made my own expenses considerably less.

Incidentally, through all that time, and even up to the present, I have done none of my own finishing. It is all handled by a commercial finisher, after which I resell the prints. In that way I get better work than I could do myself, and I get it done more quickly.

Eventually the old 3A proved disappointing. It had limitations that were quite annoying at times, though in other respects it was a splendid machine, with one of the finest lenses I have seen in a camera of that type. I made the momentous decision to buy a second hand Speed Graphic (4x5). I had to pay for it on the "so much down and so much a month" plan, but it apparently was not a foolish impulse. The camera is now nearly paid for, and it has for several months been earning back its cost at an ever-increasing rate, principally from the sale of contact prints.

Two things are responsible for that growing income. First the fact that the new camera takes better pictures, and second, because I now go

about with an eye to business, where before I was somewhat unseeing.

Snow pictures have always interested me. I have developed a yearning to have my own Christmas cards, photographic cards with a striking snow scenes as the principal decoration. In December of last year I had several glorious chances for just the kind of pictures I wanted. There were snowstorms galore, and I didn't miss any of them.

I took several wintry, snowy views of the hotel in which I live and work, ostensibly only for my own pleasure and use. Lo and behold! The hotel guests, on seeing the first prints, became my good customers. For four weeks before and during the holiday season, prints from those pictures went like the proverbial hot-cakes. I sold more than 250, and from not more than fifteen or twenty negatives. Of one view alone, the most striking one, I sold somewhat over 100 copies. (See Fig. II)

Those are the two principal cases of a large sale of general prints in my own experience, but they are by no means the only ones possible. Among my acquaintances is a commercial photographer who is located in a middle west town of 8,000. When that town held its centennial celebration recently, he perched himself above the line of march of the huge parade, and took more than fifty "snaps" (with a small roll-film camera) of the floats, bands and marchers. From them he sold a large quantity of prints, none of them enlargements, and none of more than ordinary record-picture quality.

For the amateur who will keep his eyes open there are many such opportunities. Holiday parades, special celebrations, county and city fairs, even such ordinary views as those of notable buildings—of all these, and more too, each has some sort of a market if the photographer is willing to search it out.

In addition to selling prints from my own selection of views, I am occasionally asked to take special pictures for some individual or group. That I consider another portion of the contact print field, for I rarely in such cases sell enlargements. The calls come from friends or acquaintances, or from those referred to me by someone who knows of my hobby. It is much the same as a commercial photographer might do, except that I do not advertise.

I like to refer to any such order as "going out on a job." For that type of work I naturally make a higher charge, since it involves making an extra trip, perhaps carrying a number of extra pieces of equipment such as lights, reflectors, diffusing screens, and extension cords.

For instance: a group of local society girls have been giving marionette shows partly as a pastime, and partly as a means of giving work to a few individuals whose finances were a bit uncertain. I recently had a call from them to come and take a few pictures of their puppets. They wished to use the prints in advertising their shows. It was an indoor job, and entailed minor difficulties, but I came through with flying colors and another satisfied customer.

In the last six or eight months I have done such "special" jobs as these: formal portrait (indoor); full-length poses of a bride in her wedding gown; informal groups and single portraits out-of-doors; indoor photographs of a four-year-old youngster; a view of a building for a lady



Fig. 1—A typical view of the Century of Progress International Exposition in Chicago, taken by the author in the summer of 1933. This print, along with 164 others also of the fair, enjoyed a good sale in the months following the exposition.

artist who wished to make a sketch from the photo (she chose that in preference to standing out in the cold and snow for long enough to complete the job).

It is some twenty months since I took my first picture, that is, after I had decided to make photography a hobby. At the time of writing I have just filed away negative Number 496. (I keep all of my negatives in a numbered file, where they are instantly available.) That is not such an enormous quantity, yet in averages it represents taking four pictures every five days for more than a year and a half.

All of that activity would not have been possible had I depended on my own regular, but feeble income to pay the piper. From the sale of contact prints I have had a return that has made my burden appreciably small.

In the interim from June 1933 to February 1935 I sold better than eight hundred contact prints, of both the $3\frac{1}{4} \times 5\frac{1}{2}$ and the 4×5 sizes. The best month for sales was December 1934, when I sold 227 prints. Second high was October 1933 (just before the close of the 1933 world's fair), with 162 prints sold.

I have found that fifteen cents is a satisfactory price to charge for 4×5 prints, with those of postcard size going for a dime, the difference being in the quality rather than the size of the print. I repeat: the selling of contact prints is a well paying field for the amateur to get into.

As to the equipment I use: I take all of my pictures with a 4×5 Speed Graphic camera, using Eastman Commercial Panchromatic cut film. I have stuck to that one brand of film for a long enough time to have become thoroughly accustomed to it. In that way I get better results, at least so

I believe, than if I had to keep changing back and fourth with several varieties. For outdoor work I carry with me a graduated sky filter and a lens hood. Indoors I use a photoflood lamp with an easy-to-move aluminum reflector. The lighting outfit is equipped with a diffusing screen made from ordinary tracing cloth. I nearly always, unless it be physically impossible or impractical, set my camera on a tripod, even for snapshots.

I don't prescribe that an elaborate outfit is necessary to make salable pictures, but I do know that everything that makes for an improved picture makes the prints sell more quickly.

With the sharp lens which I am fortunate enough to have in my camera, I find that the glossy print is the most desirable. Unless the customer specifies otherwise I have all prints made up with a glossy surface.

These are my experiences in selling contact prints. I pass them on, for whatever they may be worth to others like myself who, though not intent upon becoming professional photographers, would like to know that their photographic hobby horse is not a matter of "all outgo and no income."

If you've never tried to sell any contact prints, why not get out and take a crack at it? It might provide the solution of where that much-needed piece of equipment is coming from, or how to pay for a lot of pictures you'd like to take but can't afford to. Here's luck to you!

Cinema Section

Edited by

William A. Palmer

Advanced Color Technique

ONE of the biggest advantages of color movies is that they give a nearer approach to a perfectly natural record of a scene. For a good many years research workers have been striving for the color process that would permit colors to be photographed and reproduced with fidelity. Now through the magic of Kodachrome and Dufaycolor this is possible. However, it is often desirable to offset the color balance in scenes or to introduce unnatural colors so as to create what we may call a theatrical effect. No one will dispute

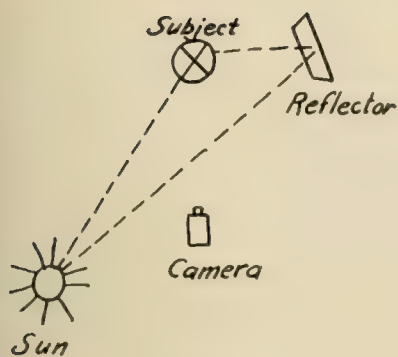


Fig 1

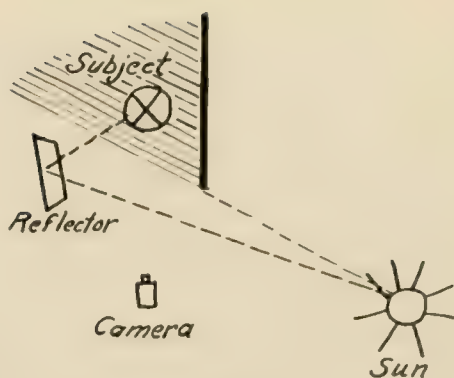


Fig. 2

that intentional unnatural color rendering is desirable if he examines carefully the practices of the legitimate theater and illustrative advertising.

For a good many years theatrical stage lighting has chosen to make unnatural but aesthetically pleasing lighting effects by the use of colored gelatin over the lighting units. The actors are almost always lighted with colored light, usually of a pink or amber tint, instead of plain white light. If you examine the color plates of national advertisers in magazines such as the *LADIES HOME JOURNAL* and *VANITY FAIR*, you will see that the illustrators have used intentionally colors that are not normal. Their most common procedure is to cause a back or side light of an amber or golden color to set off the subjects with a nice roundness. If such workers find it desirable to alter color rendering for special effects, it is logical that we should take advantage of their experience and apply it to the technique of color cinematography.

Colored Reflectors

The first method of obtaining "theatrical" color effects in motion picture scenes is through the use of colored reflectors. The common white or silver reflectors throw back light rays of all colors. However, if a reflector is made with a coating of brilliant reflecting material but colored, it will throw back light of one color, absorbing other colors.

There are several methods of constructing colored reflectors. The easiest method is to convert a regular aluminum or tin foil reflector by placing a sheet of colored gelatin or cellophane over the surface, holding the sheet down with thumb tacks. A light shade of theatrical color gelatin should be used and if such can not be obtained, a dark shade can be bleached by placing it in the sun for a day or two. The most useful colors are shades of yellow, red (pink), and blue. These can be obtained from theatrical equipment supply houses under various special names such as "Surprise Lilac", "Surprise DuBarry", "Straw", "Steel Blue" and "Chocolate."

Two other ways of making colored reflectors are, first, the coating of the reflector surface with aluminum paint in which has been mixed some dry pigment of the desired color and, secondly, by the use of "metallic" papers which are carried by most stationery stores. These papers are made for fancy wrappings

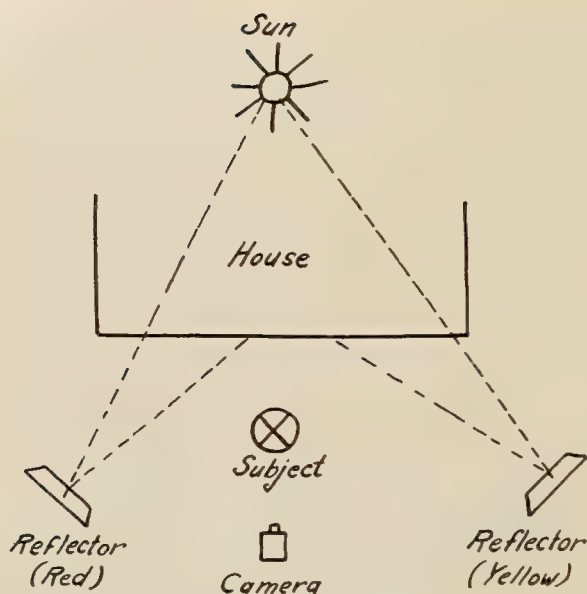


Fig. 3

and decoration purposes and are made with smooth or "hammered" surfaces to represent metal. Silver, Bronze and Gold are the most common and also the most useful.

The Use of Colored Reflectors

Colored reflectors are used for the most part when photographing close-ups of people and are placed so as to give a colored side light. This is a very common arrangement used by artists who do the illustrations for billboards and magazine ads. It gives the effect of greater depth and roundness to the subject, setting it off from the background in a pseudo-stereoscopic relief.

In figure 1, there is shown a common use for a color reflector. The arrangement of camera and subject with relation to the sun is the usual "over the photographers shoulder" set-up and the reflector placed to the back and side of the subject. Any color can be used, but yellow, amber, or gold is usually the most pleasing.

Figure 2 shows an exceedingly good use for a colored reflector. The subject is in the shade and thus illuminated by sky light which is too bluish. Ordinarily with a subject in the shade the use of a haze filter is recommended to cut down the predominance of blue. However, by the use of a gold or yellow reflector placed as shown, a most pleasing scene can be made. The subject will have a front lighting of cold blue with a side light of warm amber.

Another use for colored reflectors is to light the background of a set. If, for instance, scenes are to be taken with the shaded side of a house for a background and the house is light colored (white stucco would be ideal), two reflectors of different colors can be placed as shown in figure 3 to throw colored light on the background. If the left reflector is red and the right one is yellow, the background will receive a flood of blended color starting with red at the left and changing through shades of orange to yellow at the right. In a lighting

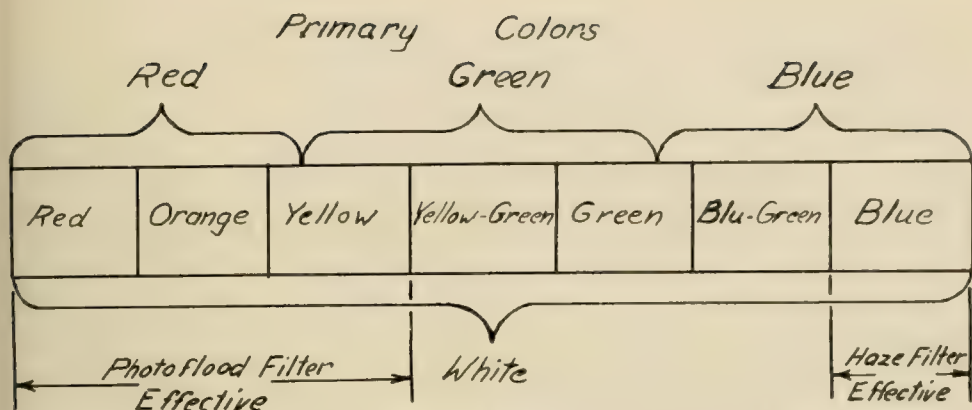


DIAGRAM OF SPECTRUM

Fig 4

arrangement of this kind, the subject would be illuminated by the normal sky light.

The more one works with color film the more will possibilities for color reflector use appear. In most close-ups of people, a slight colored highlight will result in a very pleasing effect.

Colored Compensation Filters

It is sometimes desirable to change the whole color balance of a color process in order to compensate for deficiencies in lighting used. The most common compensating filters for Kodachrome are the haze filter and the photoflood filter.

In order to understand the operation of these filters, it is well to look at the diagram of the spectrum as shown in figure 4. This diagram represents the distribution of the various colors in the visual spectrum. In reality this is a continuous band or rainbow of color changing in a smooth progression from red on one end through yellow and green to blue on the other end. When the light illuminating a scene is pure white, it is composed of equal proportions of all the colors in the spectrum. Often, however light has an excess of one or more of the spectral colors and the function of the compensation filters is to subdue this excess. For instance, scenes in the shade during a sunny day are illuminated by light from the sky which has an excess of blue light. A haze filter is used over the lens then to cut out some of the blue light as shown in the diagram. Likewise, when photographing interiors with photoflood illumination, there is an excess of red and yellow light and the photoflood compensation filter is used to absorb some of these colors. In each case the final effect is to permit white light to fall on the film.

In some instances the use of compensation filters other than the two regular ones is desirable. The Kodachrome process is as near an ideal one as has been developed to date. But there is a tendency for dark greens to appear brownish on the screen. This is probably due to the combination of the two facts that the eye is super-sensitive to colors in the middle of the spectrum (green region) and the ordinary projection lamp is deficient in the same region. This weakness in green tones can be compensated for by the use of a pale green filter which

will hold back the red and blue primaries. Such a filter is not made commercially except on special order, but they can be made experimentally by dyeing a piece of positive movie film which has been first cleared in hypo. The unexposed movie film placed in an ordinary hypo bath will become clear when it can be dyed with some soluble green color. Water colors or green ink will serve. Several strips should be dyed to different densities, none of them very dark and the lightest having just the barest tint. These strips can then be numbered and a series of test shots, only a few frames each, can be made. Later, when the results of the tests are known, one can use a successful filter when conditions demand it. Such manipulating is very interesting and often yields very fine results, but of course it must be considered purely experimental and not be used on scenes which cannot be re-photographed in the event of a failure.

Film Plans

THERE is a critical point in the experience of any owner of a home movie camera. He has owned his camera for several months and has made the usual scenes of family and friends around home, at picnics, on trips. At this point it seems as though every family event is so similar to one already filmed that it is a waste of film to take more pictures. It is the critical point when the movie camera may be laid on the shelf and all but forgotten or movie making can become a thoroughly established hobby through the use of good film plans.

Good film plans for the average movie maker are not complete photoplays with numerous characters and properties. (These are the film fare for club groups.) The average movie maker works alone, having the opportunity of enlisting his friends and family for various scenes, but usually not having the time nor inclination for elaborate photoplay technique. Good film plans for him concern short episodes centering around a single character. A baby in the family, a pet dog or cat, an occupant of a bird house in the back yard—all are good characters around which a little incident can be filmed.

As an example let's take the family pup and see what we might do in the way of a little story. The incident should be considered from the standpoint of the pup, all camera angles being low and humans, if a part of the action, should be suggested by close-ups of feet or hands only. Here is the script:

- Scene 1. Medium shot pup playing around in front of house. He finds a nice spot and lies down.
- Scene 2. Close-up of feet on the front sidewalk. Feet are staggering, indicating that the subject is intoxicated. A bottle is dropped and broken and liquor spills on pavement.
- Scene 3. Pup lying down takes notice of bottle being broken, pricks up ears, gets up and walks away to investigate.
- Scene 4. Pup runs up to spilled liquor on sidewalk and starts to lap it up.

(This scene can be made after the bottle is broken if the small pieces of glass are carefully swept up to prevent injury to the dog's tongue. The liquor can be water in which is mixed some honey, a concoction that will be lapped up with enthusiasm.)

- Scene 5. Close-up. Pup continues to drink spilled liquor.
- Scene 6. Similar to scene 5. Pup starts to get a little woozy. (This effect is obtained by shooting with the camera running at 32 frames per second.)
- Scene 7. Medium shot of pup as he finishes drinking and staggers out of scene. (This scene taken with camera running at full slow motion speed of 64 frames per second.)
- Scene 8, 9, 10. Here can be included several shots of the intoxicated dog. Any of the usual antics of the pup, especially those of sitting up, begging, rolling over, etc., when made in slow motion are very humorous.
- Scene 11. Medium close-up of Pup as he lies down and holds his paw to his forehead. (This scene can be obtained easily if it is shot backward, that is, with the camera held upside down. The pup is made to lie down and his paw held by an assistant in position over his forehead. The camera is started running at slow motion speed and the paw released. The assistant must get his hand out of the camera field immediately. The dog will, of course, take down his paw, but will probably be slower about it than the assistant getting his hand out of the way. After the paw has been removed from the forehead, there should be a second or two pause and then the pup should be called so as to have him get up and walk out of the scene. This scene when projected in reverse will give a good finish to the episode.)

Questions and Answers

QUESTION: Why is sound film taken and projected at the rate of 24 pictures per second and silent film at 16 pictures per second?

ANSWER: When 35 mm sound on film was being developed, the inventors speeded the motion of the film so that high frequency sounds would not be so difficult to record. (High notes are represented on sound track by very fine lines placed very close together.) Recent perfection of optical systems and film emulsions have made it possible to record satisfactory sound on 35mm film at old speed of 16 frames per second (60 feet per minute). However, 16mm sound film must be recorded and reproduced at at least 24 frames per second for good quality reproduction and in order to have uniform standards the Society of Motion Picture Engineers has established 24 frames per second as correct for both 35mm and 16mm film.

QUESTION: With interior lighting, should back lighting be considered when determining the proper exposure?

ANSWER: No. The proper exposure should be determined with the front lights only and then the back lights added without decreasing the stop diaphragm.



"Air Circus"

R. Owen Shrader

Advanced Medal Print

■ For an appreciation of this picture we ask the reader to refer to page 189 of our April 1935 issue. On that page we show another of Mr. Shrader's pictures with subject matter very similar to the present print, and it is interesting and instructive to compare the two.*

With things as they stand we prefer the other picture because the sweep of line, the action, is more forceful, more dynamic, and as a consequence of this the dramatic impact of the other picture is stronger, and more clean cut. We feel however that with slight adjustments the present print can be made at least the equal of the other, and possibly slightly stronger because of the additional element of interest derived from the three planes performing as a unit.

The picture depends primarily upon the smooth flow of line and the feeling of terrific speed in the planes. The first of these is diluted by the fact that the line of flight is broken in the lower left (the smoke having drifted) and the second by the fact that the planes have completed the loop and leveled off. We believe that if they

*The picture referred to (but not the comment) is reprinted on page 457.

(Continued on Page 457)

**Second Award
Advanced Class**

■ Once again Mr. Muller offers us an unusually fine example of outdoor portraiture. The subject is eminently suited to outdoor photography for the outdoor light seems to assist materially in emphasizing the interesting characteristics of this weather beaten face. If the reader has the opportunity it would be well to compare this picture with a portrait of similar nature photographed by artificial light. We feel confident that it will be evident that people whose life is largely in the open will photograph best in that environment. The fine photographic quality evident in this picture is (as we have pointed out before) a constant and valuable characteristic of Mr. Muller's work.

Some may feel that the face is rather crowded in the picture space. Ordinarily we would not feel that this is a fault in itself, but we could wish that the peak of the scarf did not run out of the print at the top, for by so doing it appears to call a bit too much attention to itself. It is this element in the picture that is principally responsible for the suggestion of crowded spacing. We should observe that if we add space to the top we must also add at least as much, preferably a little more at the base, in order to keep the eyes at a reasonable height in the picture. There are two possibilities that may have made it inadvisable for Mr. Muller to adopt a more open spacing. The peak in the scarf may take a peculiar twist that would be too insistent in the picture or there may be undesirable elements at the base that it seemed best to trim away.

Data: 4x5" Graflex; 7" Carl Zeiss Tessar; 1/10th sec at F:16. on Defender X E. Pan., in M. Q. Tank; K-2 filter; Defender Velour Black J, in D-72.



"The Earth's Heritage"

John Muller



George H. Phillips

**Third Award
Advanced Class**

■ Mr. Phillips' picture contains a delicate beauty of tone, texture and atmosphere, that is the result of wise selection of scene and lighting, plus real technical skill. It is our guess that the great majority of photographers would have trimmed away the area at the top of the print which is not sand. We feel that Mr. Phillips shows a fine sense of graphic values in retaining this area, for it introduces aerial perspective, and is the principle element in the picture that contributes substantially to imparting a sense of the third dimension.

There is a very slight weakening of the leading line around the center of the picture, and we are sorry to note that this appears to be slightly exaggerated in the reproduction. In the print we cannot see that this constitutes a fault. To the contrary it is in keeping with the delicacy and grace of the whole.

Data: 3¼ x 4¼" Graflex; 8" Cooke; 1/25th sec. at F:11 print on Agfa Ansco Brovira Royal.



"Marigolds"

Christine B. Fletcher

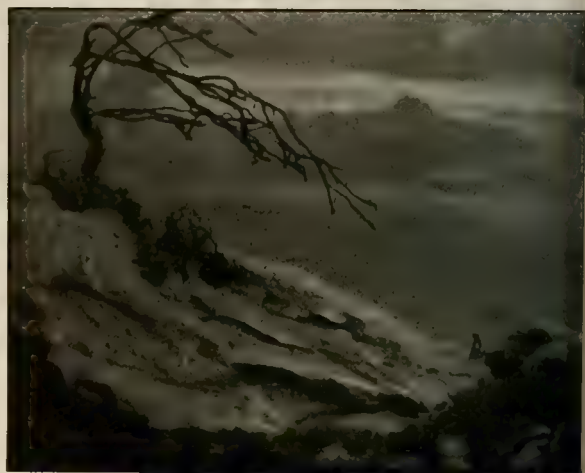
no doubt due to the emphasis which has been placed on technique and photographic values in recent years. Such emphasis is desirable in itself, but must be considered in the light of the subject matter and the effect desired. Notice that many of Mrs. Fletcher's pictures contain a very slight degree of softness with respect to definition (more evident in the large print than in the small reproduction). The objection to diffusion derives primarily from the fact that it was horribly over-done in the past. If the subject is suited to such treatment and the spirit of the picture is in the romantic vein, a slight amount of softening of definition may prove a distinct advantage. The great danger lies in carrying diffusion too far or applying it to subjects that do not warrant such treatment.

Data: 4x5" Graflex; 8½" Bausch and Lomb Tessar; 40 sec. at F:22, by a combination of daylight and artificial light, on Defender X.F. Pan., in Metol-Hydroquinon-Borax; Defender Velour Black, DD, in M. Q.

Fifth Award Advanced Class

■ The force and fury of the elements is strongly brought out in this interesting picture. Every line of the wind-tortured tree speaks eloquently of the difficulties of its existence. One could wish that the foreground did not fall out of focus so rapidly for this seems to lend an element of unreality to the scene which on first glance gave us the impression that it was a table top shot. Of course this is not the case and we should not miss the fact that this subtle suggestion of other-worldliness, contributes an eerie feel to the picture that is in keeping with and enhances the mood. The small upright object about one fifth of the width of the print in from the right and about one fourth of the height up from the base, bothers us a trifle because it is too small to explain itself, but just large enough to attract the eye. This attraction is greater because it slightly resembles a small animal. Such small objects are a distraction not as unnecessary spots but primarily because they puzzle the observer, and for that reason cause the eye to continually return to them.

No Data:



"The Edge of the Cliff"

A. T. Roberts



"East and West"

Dr. Herbert Antoine

Amateur Medal Print

■ Dr. Antoine has achieved a masterly blending of Occidental and Oriental architecture, in this interesting picture. Observe what an important part the lighting plays in subordinating one area of the picture to the other. The oriental buildings are simply suggested in silhouette, and by this means the confusion of irrelevant detail that would otherwise appear in the foreground is eliminated. The illuminated sign is unquestionably too strong, and it would have helped if the shot could have been made with the natural lighting as shown but with the sign not illuminated. Under such conditions we believe that the sign would have just about the right degree of visibility.

Data: Papille; Elmar F:3.5; 1/25th sec. at F:3.5, on S. S. Pan., in DK-76; bromide print in Amidol. Taken just after sunset.

**"At Eventide"****L. H. Shaw**

from a number of possible positions. Second, the tree needs to be more definitely separated from the background, and much could be accomplished in this respect by bringing it into sharp focus. From one of the new viewpoints suggested it should be possible to so place the figures that they also would be sharp. Third, the vertical space allotted to foreground and background is too nearly equal. This can be corrected by trimming from the top down to the top of the tree, and we would also trim in from the left almost to the tip of the tree branches. Notice that the trimming has the desirable effect of adding height and size to the tree.

Data: $2\frac{1}{4} \times 3\frac{1}{4}$ " Kawee; Panatomic film developed in Metol; Agfa Ansco Brevira Rough, medium.

Third Award Amateur Class

■ We have spoken before of the fine pictorial possibilities which are to be found in photographing the smaller animals, domestic or otherwise. Mr. Scheide's picture of a pig called "Proboscis Solarization" which appeared in this department in the July issue was a gem, and now Mr. Timby offers another interesting subject which may be placed in the same general category. We should like to call attention to the importance of the ears in photographs of this kind. The ears are in most cases the most expressive feature of an animal. In the portraiture of human beings the photographer watches the eyes and the facial muscles to catch a desired expression. With animals he should watch the ears. Observe also how the distribution of the ears in this picture enhances the composition. We like the picture better trimmed from the right until the tail on the right is eliminated. This places the heads in a slightly stronger position and does away with the rather weak area at the right edge of the print.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Graflex Series D; 6" Zeiss Tessar; Portrait Pan., in A.B.C. Pyro; Agfa Ansco Brevira Medium, in Amidol.

**"Peter & Cottontail"****Henry E. Timby**

**Fourth Award
Amateur Class**

■ A prime difficulty in pictures such as this, where it is hard to establish and ordered composition because of the confusion and profusion of lines, is to set up a dominant center of interest. Mr. Collerd has cleverly solved that problem by strongly accenting the figurehead and ruthlessly subordinating everything else to it. This results in a quite successful picture the only disadvantage being that the treatment throws everything but the figurehead into rather a low key, that has the effect of killing the feel of sunlight that would otherwise be desirable.

Data: Leica F; 50 mm. Summar; 1/60th sec. at F:6.3, on E. K. Background film in DK-76; Dassonville Charcoal Black B, in Dassonville M. Q. using Mortensen Texture Matrix, and Projection Control.



**"The Figurehead"
Raymond B Collerd**



**"Three Lemons"
Lester H. Brubaker**

**Fifth Award
Amateur Class**

■ Mr. Brubaker shows an interesting and simple composition in which he has made good use of the shadow cast by the glass-ware. Notice that he has avoided a fault often found in pictures of this kind. Namely that of permitting detail on the shadow side of the subject to be lost in order to accent the cast shadows. The print is technically quite good and the arrangement well thought-out. We believe that a black or deep gray border would help in giving a finished appearance to the picture.

Data: 4x5" Graflex; 12" lens; 5 secs. at F:64, on E. K. Panatomic film; 15 mins in DK-76; print on E. K. Opal T, in French Universal Developer 1:4.

Monthly Competition

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class: George H. Phillips and R. Owen Shrader, for the Los Angeles Camera Club; Mrs. Christine B. Fletcher, for the Photographic Society of San Francisco; John Muller, for the Pictorial Photographers of America; and A. T. Roberts, for the Toronto Camera Club.

The following won points for their clubs in the Amateur Class: Dr. Herbert Antoine and Raymond B. Collierd, for the Golden Gate Miniature Camera Club; Lester H. Brubaker, for the San Jose Camera Club; and L. H. Shaw for the Schenectady Photographic Society.

Contributing Clubs

Bakersfield (Calif.) Camera Club	Los Angeles Camera Club
Baltimore Camera Club	Montreal Camera Club
California Camera Club	Norfolk (Va.) Photographic Club
East Bay (Oakland, Calif.) Camera Club	Photographic Society of San Francisco
Fort Dearborn Camera Club	Pictorial Photographers of America
Golden Gate Miniature Camera Club	San Jose (Calif.) Camera Club
(San Francisco, Calif.)	Schenectady Photographic Society
Hamilton (Canada) Camera Club	Telephone Camera Club of Manhattan
Japanese Camera Club	Toronto Camera Club
(San Francisco, Calif.)	Washington (D.C.) Pictorialists
Lens and Shutter Camera Club	
(Cleveland, Ohio)	

Standing of Clubs

Large Clubs Advanced Class

Los Angeles Camera Club.....	30
Camera Club of Ottawa.....	19
Fort Dearborn Camera Club.....	18
Pictorial Photographers of America...	14
Photographic Society of San Francisco.	12
Montreal Camera Club.....	10
Miniature Camera Club of New York..	7
Telephone Camera Club of Manhattan.	3
American Society of Cinematographers	1
Toronto Camera Club.....	1

Small Clubs Advanced Class

Erie Camera Club.....	5
Monterey Peninsula Camera Club.....	4
Baltimore Camera Club.....	2
Camera Art Circle.....	2
Japanese Camera Club.....	2
East Bay Camera Club.....	1

Large Clubs Amateur Class

Photographic Society of San Francisco	36
Golden Gate Miniature Camera Club...	13
Schenectady Photographic Society....	10
California Camera Club.....	8
Miniature Camera Club of New York..	5
Los Angeles Camera Club.....	3
Camera Club of Ottawa.....	1

Small Clubs Amateur Class

Hamilton Camera Club.....	11
Washington Pictorialists.....	11
San Jose Camera Club.....	4
Cleveland Central Y.M.C.A. Camera Club	3
Whittier Camera Club.....	3
Monterey Peninsula Camera Club.....	2

Advanced Competitors

Edward Alenius, Jamaica, N. Y.
 Edward Bafford, Baltimore, Md.
 J. W. Campbell, Montreal, Canada.
 M. K. Curtis, Oakland Calif.
 Fred M. Doudna, Washington, D. C.
 *Christine B. Fletcher, San Francisco, Calif.
 C. N. Fuller, Los Angeles, Calif.
 W. P. Grayston Montreal, Canada.
 Samuel Grierson, Brooklyn, N. Y.
 Stanley Harrod, F.R.P.S., Toronto, Canada.
 Lionel Heymann, Chicago, Ill.
 N. S. Horton, St. Lambert, Canada.
 V. E. Johnson, Chicago, Ill.
 Sorab J. Kharegat, Bombay, India
 Dr. K. Koike, Seattle, Wash.

W. E. Mackintosh, Baltimore, Md.
 *John Muller, New York, N. Y.
 *George H. Phillips, North Hollywood, Calif.
 George Michael Rex, Pasadena, Calif.
 *A. T. Roberts, Toronto, Canada
 M. Arthur Robinson, Honolulu, T. H.
 Ray C. Robinson, Pomona, Calif.
 John Schiede, Jr., Richmond Hill, N. Y.
 *R. Owen Shrader, Pasadena, Calif.
 Norman P. Smith, Toronto, Canada
 S. R. Vincett, Los Angeles, Calif.
 K. Wakasa, San Francisco, Calif.
 W. E. Wing, San Francisco, Calif.

*Denotes prize winners.

Amateur Competitors

V. Aiyar, Calcutta, India.
 John Amorosa, Brooklyn, N. Y.
 *Dr. Herbert Antoine, San Francisco, Calif.
 K. W. Bareis, San Francisco, Calif.
 F. M. Beckett, San Jose, Calif.
 Dale Martin Bender, Milwaukee, Wis.
 Dwight Bentel, San Jose, Calif.
 R. A. Berger, San Jose, Calif.
 Heinz Bertelsmann, Oakland, Calif.
 Arthur T. Brice, Jr., San Francisco, Calif.
 *Lester H. Bruhaker, San Jose, Calif.
 Carrol I. Burtanger, Dayton, Ohio
 Roland Calder, Berkeley, Calif.
 *Raymond B. Collier, San Francisco, Calif.
 Sam Coslow, Beverly Hills, Calif.
 Ruth R. Curtis, Oakland, Calif.
 Leonard Davis, Hamilton, Canada
 James R. Evans, Ocean Beach, Calif.
 Mortimer Friedman, New York
 Harry Fujita, Newcastle, Calif.
 John Funaro, Springfield, Mass.
 A. R. Glassey, Albany, Ore.
 Edward L. Gockler, Saranac Lake, N. Y.
 Alden C. Grant, San Jose, Calif.
 R. P. Hotis, Washington, D. C.
 R. S. Hull, Jr., San Francisco, Calif.
 Walter H. Kenneth, Chicago, Ill.
 Ernest W. Kestner, Schenectady, N. Y.
 Lee M. Klinefelter, Norfolk, Va.
 Luis Lemus, Pasadena, Calif.
 C. Stanton Loeber, San Francisco, Calif.
 Eldredge Looney, Omaha, Neb.
 Louis Luh, Washington D. C.
 Elizabeth M. Mackintosh, Baltimore, Md.
 M. Moskowitz, New York, N. Y.

Karl K. Nelson, Newton, Kansas
 H. J. Newcombe, Ramsey, N. Y.
 E. J. L. Pellier, San Jose, Calif.
 George Peterkin, Costa Mesa, Calif.
 C. E. Peterson, Oakland, Calif.
 Martin Polk, New York, N. Y.
 Earl H. Rainford, San Francisco, Calif.
 Ben Randall, Oakland, Calif.
 F. L. Rogers, San Francisco, Calif.
 Ricardo Sagrera, El Salvador, C. A.
 E. Ashford Sampson, San Francisco, Calif.
 H. H. Schoenlank, Chicago, Ill.
 W. R. Settle, Edmonton, Canada
 *L. S. Shaw, Schenectady, N. Y.
 H. E. Sheffield, Cleveland, Ohio
 Alex Silverberg, Cleveland, Ohio
 Guy Simon, Shelby, Ohio
 J. P. Skillen, Hamilton, Canada
 L. Charles Smith, Washington, D. C.
 C. I. Stacy, Elberton, Ga.
 Robert I. Storton, Los Angeles, Calif.
 Henry Tanaka, San Francisco, Calif.
 W. Thiemann, Waco, Texas.
 *Henry E. Timby, San Francisco, Calif.
 E. N. Torbert, San Jose, Calif.
 Mrs. Fanny Trout, Kewanee, Ill.
 A. H. Tweedie, Hamilton, Canada
 Homer Wakefield, Provo, Utah
 F. C. Ward, St. Joseph, Mo.
 B. Russell Whitaker, Jr., Mineola, N. Y.
 Buel White, Springfield, Mo.
 Morgan W. Wickersham, Washington, D. C.
 Calvin R. Williams, Bakersfield, Calif.
 William L. Woodburn, Bloomsfield, N. J.
 *Denotes prize winners

"Aerial Acrobatics" R. Owen Shrader

This picture is reprinted from the April Competition Dept. for purposes of comparison with the picture on Page 450 of this issue.—Ed.



(Continued from Page 450)

were still moving downward (as they are in the other picture) the sense of speed would be more strongly conveyed. Both of these difficulties could be largely corrected by turning the negative in the vertical plane in the enlarger so that it would be tilted 30° from the position occupied when this print was made.

Test this yourself by turning the top of the reproduction 30° to the right and placing trimming ells over the picture so the new distribution will be evident. You will notice that this throws the peak of the loop into the upper right; that we can then trim away the part of the smoke trail in the lower left that does not conform to the line of flight; and that with such a trimming the planes take a slightly downward course. To our eye the picture is much more effective with the readjustments. What do you think?

Data: 4x5" Graflex; 81 $\frac{1}{4}$ " Tessar; 1/350th sec. at F:9, on Agfa Plenachrome Film Pack, in D-76; E.K. P.M.C. No. 9.

Photographic Digest

Dr. H. D'Arcy Power, F. R. P. S.

Chromium Intensification

This method of intensifying both negatives and positives has been frequently described in this journal from the time when its discoverer C. Welbourne Piper first announced and I reported it in this Department up to the careful work of the Eastman Research Laboratories of J. I. Crabtree and L. E. Muehler. Communication No. 473.

Notwithstanding all this publicity and its regular appearance in the year books it has not attained the place it should occupy among the photographic public; a fact readily gauged by the number of inquiries for a reliable intensifier sent in to the Photographic journals. Now the British Journal of Photography takes the matter up once more and gives details, which with some comment I here repeat: Let me first explain that the process consists in converting the silver image into one of silver chromate by immersion in a bath of Potassium bichromate and hydrochloric acid which after adequate washing is then again reduced to silver plus a certain amount of retained chromium, hence the intensification. This combined image is more stable than the primary one, being neither altered by time nor atmosphere, and can gather more chromium and deeper intensification by a repetition of the process. With this understanding we can proceed with the article in question:—Stains may appear on negatives that have been imperfectly fixed or washed, therefore when these are in doubt reflex in an acid fixing bath for ten minutes (better thirty) and wash at least half an hour. If these precautions are unnecessary but the negative is dry let it be soaked in water for ten minutes before proceeding to bleach. The bleach for normal intensification is made by mixing one part each of a 5% solution of Bichromate of potassium with a 10% solution of hydrochloric acid and six parts of water. If a more than normal intensifi-

cation is desired the hydrochloric acid is reduced to half, if a less than normal then use double the amount of hydrochloric acid solution. (As both chlorine and chromium are being absorbed from such a bath the more it is used the weaker it gets and with an uneven absorption of its elements, therefore either the bath must be reasonably often renewed or strengthened, according to requirements, with one or the other of the reagents. As I have had a long experience of the method I find the latter method safe in my hands). The material in the bath should be protected from strong light and this precaution should be followed during the subsequent washing until it reaches the redevelopment bath. In the bleaching bath the black silver turns to the light orange chromate in the course of a few minutes, during which the bath should be rocked. When complete through to the back the negative or positive must be washed until no trace of yellow color is left. This may take 30 minutes but may be cut down to five by a preliminary immersion in a solution of metabisulphite or bisulphite of potassium or sodium. The material may now be redeveloped by one of the common developers (preferably Amidol) in full daylight and however complete the darkening may appear to the eye it should stay in the developer until all the silver salts have been reduced; a matter of perhaps half an hour. After washing free of developer it is either dried or if the intensification prove insufficient the plate is returned to the bleaching bath and the rest of the procedure repeated. It is usual to state that this reinforcement may be done more than twice, which is true, but in my experience always with loss of sharpness.

I might mention that a very high degree of intensification may be obtained by redeveloping the bleached plate with sodium sulphide, and should any cloudiness result placing it for a few minutes in the hypo bath.

Sodium Sulphide Its conservation and Storage—Glycerinated Sodium Sulphide

For many years I have constantly had to use Sodium sulphide in connection with my Dichrome process, mostly for local toning of specific areas. This has called for ready availability and constant composition and in spite of what has been written I am not able to subscribe to the teaching that the presence of products of oxydation are unimportant. I note Mr. Henry W. Bennett's advocacy of the screw stoppered mineral water bottle, and undoubtedly it is a great improvement on the way that sulphide solution is commonly stored but it has this imperfection that every time the bottle is opened fresh air is admitted, probably in excess of the fluid removed. For a very long time I overcame this by storing the solution in a large sized laboratory "wash bottle" closing entrance and exit with well clamped rubber tubes. With this arrangement the total quantity of entering air can not exceed that of the volume of fluid displaced, and even this will be the partly deoxygenated air of the operators lungs.

My purpose in writing was not to commend either of these reliable methods of preservation but to recommend a quite different procedure that I have now used for three years with excellent results, both in the sulphiding of papers and plates. When a saturated solution of sodium sulphide is mixed with four times its volume of glycerine there results an almost odorless mixture that sulphides a wet plate or paper with great rapidity; so much so that full tone is attained in two or three minutes and no odor be perceptible in the room; whence it can be removed for washing. If plates are left longer than this time in the strong solution separation of the film may occur; this may be obviated by a five per cent formaline bath before bleaching. The advantage of using the strong solution is that it may all be returned to its bottle and used over and over again for weeks, in fact I have just used a mixture that was made up six months ago and has been kept in a loosely corked bottle and repeatedly used. If the mixture is watered down to the usual 1% of sulphide it gives the full tone with a longer time for sat-

uration but as the weak solution can not be kept for later use it is a wasteful procedure. It may be that it might be too expensive for commercial work but for pictorial and technical workers it is a convenience against which the small cost of the glycerine is negligible.

Soft-focus Methods

This is the subject of a B.J.P. article enumerating the well known methods based on lens modifications, control of focus, and combined foci, on the one hand, and printing dodges on the other. The article does not give anything new and omits the quartz lens but it ends with a generalization that is well worth remembering and not generally known. It is as follows:—There is one definite difference between the results of using a soft-focus lens for making the negative, and those obtained by printing methods which is of outstanding importance, although it does not seem to have been clearly defined hitherto. When taking a negative any spread (and diffusion must be spread) is of the parts that carry the most exposure, namely the lighter part of the subject. Hence the sometimes unpleasant appearance of halation around starched collars and spotlight points.

On the other hand when making prints by any of the foregoing methods, (i.e. Printing methods) it is again the parts that obtain the most light which tend to spread, but this time it is the thinner parts of the negative (the shadows of the subject) which spread over their boundaries, tending to dull or reduce in area the adjacent lighter areas.

Therefore it may be summed up that making a soft focus negative tends towards brightening the general effect of the subject, whereas diffusion in printing tends to making the result more sombre. To prevent these tendencies becoming too pronounced in the results it is curious that the same precaution is advisable in both methods, namely that the shadows should be amply illuminated and amply exposed for, when making the original negative. (The old law: Expose for the shadow detail. H.D.A.P.)

Club Notes

Meeting of Pictorial Forum, May 22, 1935

This meeting, the first since the Forum was organized a month ago, was attended by about sixty members and took place as an informal dinner meeting at the Hotel Martinique, May the 22nd.

Continuing with the same ideas and ideals which were adopted at the organization meeting, an excellent Esprit de Corps was evident right from the start, and when John Tredwell (one of the directors of the Advisory Council) opened the meeting, enthusiasm could be read on every face present and the success of the evening was assured.

At this meeting, Directors were introduced—such as the Director of Public Relations, Chester Kohn; the Director of Exhibitions, Joe Lootens; the Director of Affairs, John Magee—by John Tredwell, who acts as the Recorder for the group.

The speaker of the evening was Mr. B. Candell, who gave a brilliant talk, "The Pro's and Con's of Modern Art," which helped to acquaint the members with the ideals of the Forum and to bring Pictorial Photography and the other arts into a closer relationship.

An interesting event of the evening was a presentation of a beautiful line composition photograph, "Mood Indigo", by and from Chester Kohn to Adolf Fassbender, who will arrange a special gallery for prints made by his students, in his new studio at No. 853 Seventh Avenue, New York City. There is no doubt that, in the course of time, this collection will be very valuable.

Mr. Tredwell announced that the Committee suggests the limitation of membership to one hundred, after which eligibles will be placed on the waiting list. The group adjourned for the Summer; the first meeting of the Forum in the new season will take place early in September.

Photographic Forum Inaugurates Discussion Groups in San Francisco

The Photographic Forum constitutes one of the activities of the Art Students League, a cooperative organization for the

study of the Arts. The League is now occupying quarters at 166 Geary St., San Francisco, that formerly housed the Danysh Galleries. Beginning Aug. 26th they offer a series of Discussion and Laboratory Groups, for all those seriously interested in photography. These groups will be led by Ansel Adams, Horace Bristol, Imogene Cunningham, and Peter Stackpole. We haven't the space to give full details of the subject matter of the entire program, but it will be grouped under four main heads. Namely: The Photographic Approach, Exposure and Development, Laboratory Procedure, and Applications of Photography. Each of the four group leaders will present his views and practice on all subjects. There will be four meetings a week. The Monday and Thursday meetings will be Discussion Groups, meeting at 166 Geary. The Tuesday and Friday meetings will be Laboratory Groups, meeting at Horace Bristol's Studio, at 140 Geary St. Students may attend as many or as few meetings as they choose, and the first three meetings, on Aug. 26, 27, and 29 which will be led by Horace Bristol, Peter Stackpole, and Imogene Cunningham respectively are free to all. After those dates reasonable fees will be charged. Inquire at the above address or phone Sutter 6857 for further information.

Peoria Photo Forum

The Peoria Photo Forum organized in January now has fifty members and meets every other Thursday evening at the Art Institute.

The first annual showing in April held at the Public Library set a record for the number of people seeing a local exhibit.

During the first week in June an exhibit of theater pictures was held in the lobby of a local theater.

In addition, at regular meetings there have been five one man showings, two two man showings and 2 splendid exhibits made possible through the courtesy of the Chicago Camera Club.

At present plans are underway for a

elementary school of photography to begin next fall.

Monthly contests and field trips are used as a means of stimulating interest.

Chicago Camera Club

The Chicago Camera Club resumes its regular weekly meetings on Wednesday evening, September 4. Through the club's efforts, Chicago's Museum of Science and Industry is now showing the Invitation Exhibition of American Pictorial Photography sponsored by the Royal Photographic Society. The show continues until September 22.

The School of Photography conducted by the club will enroll students in its Advanced Course for Amateur Photographers on Tuesday, September 24, at 7:00 p.m. The course consists of ten lectures, to be given on Tuesday evenings from October 1 to December 3, in the clubrooms at 137 N. Wabash Avenue, Chicago.

New Club

The demand of Cleveland camera enthusiasts for another club led to the organization of the Camera Guild of Cleveland. On July 9, a constitution was adopted and the following officers were elected: C. A. Bock, president; John Obal, secretary; C. W. Anna, treasurer; John Steinke, program director and R. Sledz, house director.

The Guild will continue to use the Cleveland Public Library for a meeting place until a permanent location is decided on.

Mr. Steinke has scheduled well known artists for early fall lectures, and is now busy on interesting programs for the remainder of the year.

Anyone interested in the Guild see Mr. Sledz, 619 Caxton Building, Cleveland, Ohio, phone Main 1058.

Pictorial Photographers of America Hold Outing

Pictorial Photographers of America had their annual outing Sunday, June 23rd at Rye, New York, making their headquarters at the home of their President, Ira W. Martin.

Among those who attended were—Mr. Thomas O. Sheckell, Mrs. Helene Sanders, Mr. John Muller, Mr. Harold Hali-

day Costain, Mr. John Magee, Mr. and Mrs. John Minor, Mr. Fred Rothstein, Mr. and Mrs. F. Allen Morgan, Miss Sophie Lauffer, Mr. William Alcock, and Mr. Alcock's Mother.

Irving Park Y Camera Club

The Irving Park Y Camera Club of the Irving Park Y.M.C.A., 4251 Irving Park Blvd., Chicago, Ill., elected the following officers for their coming year: Edward D. Cromwell, president; Evert E. Lindberg, vice-president; Miss Edwina M. Reed, secretary, and John J. Dannello, treasurer.

Committee chairmen who were appointed by President Cromwell are as follows:

Building and credentials: Evert E. Lindberg; Constitutional: Miss Mildred Loucks; Hikes, and one man shows: Edward Eischen; Interclub relations: Lorin Schoepp; Junior camera club, and publicity: Miss Edwina M. Reed; Salon and contest: Evert E. Lindberg and Lorin Schoepp; Membership: Nicholas Gregornik; Traveling show, and magazine: Evert E. Lindberg.

A series of lectures given by members is being arranged for the next few months. Two hikes a month are scheduled by the hike committee.

A New Club States It's Objectives

The REDLANDS PHOTO PICTORIALISTS, Redlands, California: object—promote and foster interest in photographic pictorialism in this vicinity, and to afford opportunity for stimulating association, interchange of ideas and comparison of results among congenial persons seriously interested in the art; meetings every second Tuesday throughout the year; annual meeting the second Tuesday in September. Definite projects are planned for each regular meeting and exhibitions open to the public are held semi-annually in the Lyon Wing of the A. K. Smiley Public Library. Officers are: President, Barton Bachmann, 16 West Highland Avenue, Redlands; Vice-President, Glenn Murdock, 702 Terrace, Redlands; Secretary, Al Dennis, Olive Street, Redlands; Exhibition Chairman, Wm. Elmer Kingham, 5½ East State Street, Redlands.

Cleveland Photographic Society Courses

The Cleveland Photographic Society, Inc., 2073 E. Fourth St., Cleveland, Ohio,

announces the opening of their sixteenth annual School of Photography on September 13th, 1935. The opening session, on that date, is open to the public and visitors will be cordially welcomed.

It is the aim of these courses to offer instruction suited to the needs of any amateur photographer, from the rankest beginner to the advanced worker.

Sessions will be held each Friday evening, beginning at 7:30 p.m., and continuing until 10 p.m. or later, the entire evening being devoted to one subject or phase of photography.

The work of these courses is largely practical. Demonstration is held to the minimum, and students are expected to actually perform the experiments.

Printed lesson sheets are provided, giving a brief outline of the subject, together with the experiments to be performed and assignments for work outside the class period.

Material (such as film, paper, chemicals, etc.), actually used during the class period, in performing the assigned experiments, will be provided by the society. A small charge will be made for each course to defray the cost of such material. This will assure the student of having the material needed for class work, and at times avoid the necessity of purchasing a full package of some material from which he may need only a single sheet.

Students may register for as many courses as they desire; but it is assumed that students will have the necessary background knowledge to enable them to grasp the more advanced work, and class work will be laid out on that basis.

New Haven Camera Club

At the annual meeting of the New Haven Camera Club, the following were elected to office: Harold L. Staples, D.D.S., President; Fred W. Kasack, First Vice-President; Royal Pulver, Second Vice-President; W. T. Wentworth, Secretary-Treasurer; with A. S. Dana, Robert Lancraft and M. E. Bentley as Directors.

This Club, although only two years old has had a highly successful season, and a substantial increase in membership.

During the past season a number of

well known authorities have demonstrated various photographic processes, including bromoil, and carbonyl, which has created an added interest in these subjects.

The First Annual Members Exhibit proved a revelation to the visitors, as all of the prints showed a high degree of technical and artistic ability.

At the final meeting in June, Frank Esposito, a nationally known portrait photographer gave a demonstration of portrait lighting, utilizing home-made equipment and photofloods, which demonstration will doubtless encourage a larger display of portraits at the next exhibit.

All correspondence for the Club should be addressed to W. T. Wentworth, Secretary, at 66 Smith Street, West Haven, Conn.

Montreal Camera Club

At the regular June meeting a new set of by-laws was voted on and passed, which action was necessitated by the club's incorporation under the laws of the City of Montreal. At this meeting a new Board of Directors was elected and the officers of the club are as follows:

President: C. Papineau-Couture; Vice-President: P. J. Croft; Secretary: N. S. Horton, and Treasurer: C. F. Denton. Chairman Print Committee: R. King; other Directors elected were W. P. Grayston and E. A. Stanger.

Considerable activity is planned for the summer months. An interesting day is planned to take place at the Government Airport, St. Hubert, when the Montreal Light Aeroplane Club will provide opportunities for aerial photography. A field day and picnic is planned to take place near the beautiful village of Rawdon, Que., at which a large attendance is expected.

Unusual interest is being shown in the contact print competition, the first which the club has held. With many of the members not having enlarging facilities at their disposal, this competition has created an unexpected number of entries.

At the recent Third Annual Salon, 147 prints were exhibited. Although the prints from the Montreal Camera Club were selected by the Print Committee, Ottawa, Toronto, Hamilton, and Hart House Cam-

era Clubs contributed about 60 prints by invitation. A jury, composed of Messrs. Ernest Cormier, R.C.A., H. S. Hayden, A.R.P.S., and Sydney Carter, made a First Award and 3 Honourable Mentions in the Figure Study group, a First Award and 10 Honourable Mentions in the Pictorial and an Honourable Mention only in the Scientific groups. The salon was held in the Art Galleries of Henry Morgan and Company, and due to the strategic location near the Jubilee Exhibition, it was estimated that over 40,000 people viewed this Salon.

New Club

On May 10, 1935, The Camera Club of Springfield, Mass., was organized. By-Laws and Rules and Regulations were adopted by the 25 Charter Members then present and the following officers were unanimously elected to fill Pro-Tempore positions until the annual meeting to take place in September, 1935:

President—Thomas J. Lyons.

Vice-President—Karl W. Page.

Secretary—John Funaro.

Treasurer—Allan M. Hadley.

Executive Council — John Alexander, Roland Cote, Thomas Darrah and Arthur Johnson, elected, and the four officers ex-officio.

The Camera Club of Springfield meets in the Springfield Museum of Fine Arts on the first and third Fridays each month. The first meeting each month is an informal "pow-wow," while the second meeting is the formal and official meeting, at which time business is transacted and a regular program is presented.

Commencing with the July 1935 official meeting and continuing monthly excepting for September and November each year, a series of member's Monthly Print Exhibitions has been inaugurated. An abstract and a concrete subject is scheduled for each month, they being: Youth and Child Studies respectively for July 1935 and Myth and Animals respectively for August 1935. A unique system of judging has been devised in an endeavor to secure equitable awards. These exhibitions are entirely governed by the Exhibitions and

Awards Committee, which includes John Funaro as chairman, John Alexander, Thomas Darrah, Allan M. Hadley and Thomas J. Lyons.

The Camera Club of Springfield invites correspondence, suggestions and inquiries. Address all communications to the Secretary, John Funaro, 20 Rochelle Street, Springfield, Mass.

Incidentally, the membership has increased to 29 at this writing.

Sackrider Studio in San Francisco

San Francisco photographers are happy to welcome that friendly couple, Mr. and Mrs. Sackrider, formerly of Marysville, California, to San Francisco. They have sold their Marysville studio to Mr. Sully of Beverly Hills, and opened a new and most attractive studio at Room 620 Shreve Bldg., Post St., San Francisco, Calif. The Sackriders specialize in the photography of children and dogs, in both of which fields they are accomplished artists.

University of California Extension Courses

In our August issue the dates given for the start of two of the classes of P. Douglas Anderson, at the U. C. Extension Division in San Francisco, Calif., were incorrectly given. The proper beginning dates for these two courses are: Beginners course, Tues., Sept. 10, 1935; Dark-room Technique, Thurs., Sept. 12, 1935.

Camera Associates of Huntington

A special meeting of the Camera Associates of Huntington was held on July 20. The occasion of this meeting was the visit of Mr. Charles K. Archer, Mr. J. C. Larsen and Mr. Fred Sinemus of the Photographic Section of the Pittsburg Academy of Science and Art. During the evening Mr. Sinemus displayed a number of color plates and told something of the making of these plates; Mr. Larsen discussed the Carbon printing process, while Mr. Archer displayed his interest in the local organization by having brought the necessary material for an extensive demonstration of the Bromoil process. The members of the local organization were given a treat in

seeing the finishing of several bromoil prints by a worker whose product has been displayed at a number of the more important salons throughout the country.

At the regular meeting held on August 5th, Mr. Swizer of Eastman Kodak Company discussed the technical problems which confront members of a camera club.

Camera Associates of Huntington meet regularly on the first and third Monday evenings of each month at the offices of the Appalachian Electric Power Co., Huntington, W. Va.

The Metropolitan Salon

In the notice regarding the Metropolitan Salon which appeared in our August issue we neglected to mention the fact that entries for this exhibition are restricted to persons residing within approximately fifty miles of New York City. No individual who does not live within that area should plan to send to the show, for the rules of the exhibition make it impossible for the committee to accept such prints.

The Miniature Camera Club of New York, Inc.

The evening of July 10th was hot. But even the intense heat did not deter the enthusiastic members who attended the General meeting of the Club to hear what Mr. Joseph M. Bing, F.R.P.S., had to say. Physical discomforts were forgotten while Mr. Bing spoke, emphasizing the unique advantages accorded to the miniature camera and urging his audience to heed and attend to them.

Sixteen of the members of the Life Class spent the week-end of July 13 and 14 at the Catskill Mountain estate of Mr. Roland Lindemann, member, photographing. Weather conditions were ideal for outdoor work, plenty of sunshine, blue skies and billowy cumuli. We should hate to have to count the number of feet of film exposed.

Dr. Roger S. Estey, physicist, of the Electrical Testing Laboratories, gave a very valuable talk and demonstration of the influence of some of the more frequently used filters on color rendering with ortho-

chromatic and panchromatic emulsions at the meeting of the Technical Group on the 17th. Slides showing a color wheel photographed with and without the filters were used. The results were also expressed quantitatively in terms of relative brightness. Also, Dr. Estey discussed the adaptation of heat absorbing glasses in enlargers employing high wattage light sources.

A group went forth on Saturday, July 20, under the leadership of Mr. F. Allan Morgan, A.R.P.S., member, to sail around Manhattan Island, taking pictures.

Camera Craft Traveling Salons

The Camera Craft Traveling Salons are currently on exhibition as follows:

Group I

Jamestown Camera Club, Jamestown, N. Y., Aug. 28-Sept. 6.
The Kodak Camera Club, Rochester, N. Y., Sept. 9-19.
Raytar Camera Club, Rochester, N. Y., Sept. 20-30.

Group II

Delaware Camera Club, Wilmington, Del., Aug. 26-Sept. 4.
Brooklyn Edison Camera Club, Brooklyn, N. Y., Sept. 7-17.
Raritan Camera Club, New Brunswick, N. J., Sept. 22-Oct. 1.

Group III

Newark Camera Club, Newark, N. J., Aug. 24-Sept. 11.
Amsterdam Camera Club, Amsterdam, N. Y., Sept. 14-28.
Brooklyn Institute of Arts and Science, Brooklyn, N. Y., Oct. 1-15.

Group IV

Camera Pictorialists of Kansas City, Kansas City, Mo., Aug. 26-Sept. 4.
Missouri Photographic Society, St. Louis, Mo., Sept. 9-19.
Oklahoma Camera Club, Oklahoma City, Sept. 23-Oct. 2.

Group V

Miniature Camera Club of Detroit, Detroit, Mich., Aug. 30-Sept. 11.
Detroit Edison Camera Club, Detroit, Mich., Sept. 13-20.
Cleveland Photographic Society, Cleveland, Ohio, Sept. 24-Oct. 7.

Notes and Comments

A Real Book Bargain!

Willoughby's, 110 West 32nd Street, New York City, offers a limited number of Sigismund Blumann's Handbook at 69c each, postage paid anywhere in the United States. Readers who desire to take advantage of this offer for a book regularly sold at \$1 are urged to place their orders promptly, since the quantity of the books is limited. The Handbook is the fourth (latest) edition of Mr. Blumann's work and contains up-to-date data on such matters as developing and developers, fixing, toning, portrait lighting, intensification and reduction, printing processes, weights and measures, and dozens of useful items regarding dark-room procedure and practice. The book truly tells you "what you want to know when you want to know it."

Kodachrome Now Available in 16 mm. Fifty-Foot Rolls and Packette Magazines

Heres news for amateur cinematographers who own 16 mm. movie cameras of 50-foot capacity or those who prefer to shoot 50-foot lengths of Kodachrome instead of the 100-foot rolls.

Cine-Kodak Kodachrome Safety Film heretofore supplied only in 100-foot 16 mm. rolls and consequently limited to cameras with that film capacity, is now available in 50-foot rolls, or Packette film magazine.

Dr. Ernst Schwarz Is new Agfa Ansco President

The election of Dr. Ernst Schwarz as president of Agfa Ansco Corporation of Binghamton, New York, has just been announced by the board of directors of that company. This position has been vacant since the death of Brigadier General Herman A. Metz in May, 1934.

The election of Dr. Schwarz, it is stated, involves no other organization changes. Dr. Schwarz has been the chairman of the executive committee of the company for well over a year, and as such has been the

active head of the company. He continues in that office. His recent election now makes him president of the oldest photographic manufacturing business in the United States, established by Edward Anthony in 1842—for which position his photographic and chemical background in addition to his wide experience in corporate management, make him a logical choice.

Fotoshop Laboratories

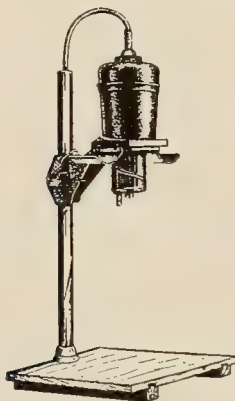
Included among the services of Fotoshop Laboratories, 136 West 32nd St., New York City, is that of straight negative processing on "reversal" types of film. Often, after exposing a roll of 16 m/m film, the cinematographer may find he has an especially valuable record from which a number of positives are to be made; or, as happens frequently, he may desire to enlarge individual frames as "stills." On 16 m/m films other than their own the Fotoshop Laboratories make an extra charge for such straight negative processing; on cine film bearing their own label, no extra charge is made, the Fotoshop offering the privilege of straight negative or "reversal" on any of their 16 m/m line. A September house bulletin of camera bargains and services gives more details.

Penn. Camera & Photo Supply

The above mentioned firm has recently opened a new photographic supply shop at 927 Liberty Ave., Pittsburgh, Pa. They carry a full line of cameras equipment, and materials both new and used, and you will find CAMERA CRAFT on their counters as well. The new shop would certainly appear to have a bright future, for Pittsburgh is one of the most important photographic centers in the country. The city itself, with its mammoth industrial plants, etc., offers excellent pictorial material. The Pittsburgh Salon of Photographic Art is held there annually, and the Photographic Society of America holds their annual meeting in that city.

The Praxidos

The cut shown here depicts the Praxidos Enlarger, which is distributed by Burleigh Brooks, 127 W. 42nd St., New York, N. Y., and may be seen in any well stocked photographic supply shop. In Mr. Brooks' advertisement which appeared in the rear advertising section of our August issue this cut appeared opposite copy



describing the Rajah Enlarger. This notice is to clear up any confusion between the two machines that may have been caused by this error. The Praxidos is designed for negatives $2\frac{1}{4} \times 2\frac{1}{4}$ inches and smaller, and portions of larger negatives. Fine construction is combined with moderate price. The Praxidos is equipped with a 3-inch F:4.5 anastigmat lens with diaphragm, a condenser and reflector permitting the use of photoflood bulbs. The vertically adjustable lamp-house permits enlargements up to 14 inches on the base board. See it at your dealer's or write to Burleigh Brooks for full information.

Affiliated Film Libraries Co.

The Affiliated Film Libraries Co., 837 South Flower St., Los Angeles, Calif., is interested in having film libraries join their association. They offer advantages of national and local advertising, window displays, film exchange, special discounts on group buying of equipment and supplies, sales helps, and a merchandising plan designed to increase profits. Exclusive franchise for your city may be secured. Write to the above address for details.

Luxor Enlarging Easel

Burke & James, 233 W. Madison St., Chicago, Ill., has recently placed the new Luxor Enlarging Easel on the market. It is strongly constructed, handles paper up to 11x14 inches in size, and the two adjustable arms hold the paper perfectly flat and will form a mask of any desired size up to the 11x14 limit. White margins may be any size up to $1\frac{1}{2}$ inches. Write to the above address for descriptive circular, or see it at your dealer's.

Picture Frame Catalogue

The Eastman Kodak Stores have recently issued a new catalogue, fully illustrated, on the Majestic line of picture frames. Any interested party may obtain a copy on request. Eastman Kodak stores in the West may be found at the following addresses: 216 Post St., San Francisco; 643 So. Hill St., Los Angeles; 419 Broadway, San Diego; 1918 Broadway, Oakland, Calif.; 709 S. W. Washington St., Portland, Ore.; 1415 Fourth Ave., Seattle, Wash.; 910 Broadway, Tacoma, Wash.; and 155 So. Main St., Salt Lake City, Utah. Send in your request promptly. We believe that the catalogue is also available from the large number of Eastman Kodak stores in the East.

Unusual Finishing Service

The enterprising combination of Herbert Luhn of the San Francisco Camera Exchange, 88 Third St., San Francisco, and Alice Argus Brady of The Camera Shop, 145 Kearny St., San Francisco, have inaugurated what should prove to be a most valuable service for the amateur photographer. They have constructed a specially equipped darkroom, with enlargers made especially for handling miniature negatives and like equipment. Their effort will be directed toward supplying a finishing service which will take the same care and pains that the expert amateur gives to processing his own work. The best of fine grain developers will be used for miniature films, and any special treatment that an individual desires may be obtained. The laboratory will not confine itself to handling miniature films but will accept all work which the customer desires to have carefully finished.

New Portfolio For Your Prints

Mr. J. L. Hamar, 35 Druid Hill Rd., Summit, N. J., is offering a new portfolio that will take prints 8x10 inches or larger. The portfolio is a quality job throughout, employs the new spiral wire binding, and contains 18 pages. Write to the above address for full details.

Zeiss Cameras and Lenses

Whether you are a miniature camera enthusiast or prefer the larger sizes, there is a Zeiss Ikon Camera for every photographic field. Models equipped with the

unsurpassed Zeiss Lenses and some also equipped with a lower priced yet very good lens. From the Contax with the superfast F:1.5 Sonnar and 1/1000 sec. shutter speed to the large size Ideal Juwel, and Miroflex models quality of materials and workmanship are consistently of the best in Zeiss Ikon cameras. Write to Carl Zeiss, Inc., 485 Fifth Ave., New York, N. Y., or 728 So. Hill St., Los Angeles, Calif., for descriptive material on the kind of camera or lens that interests you.

Our Book Shelves

Getting Ahead In Photography, by H. Rossiter Snyder. Published by Fomo Publishing Co., of Canton, Ohio. 64 pages, paper covers, price \$.75.

Mr. Snyder has the happy faculty of making his books very interesting to read. They are full of his personal experiences in picture making and for that reason the advice given is thoroughly practical since the author is one of the outstandingly successful photographic journalists of our day. In this book Mr. Snyder shows the reader the opportunity for interesting and salable pictures in a number of different fields, and tells in simple untechnical fashion the methods which should be followed in making each type of picture. This book should prove very helpful to any actual or would be photographic journalist in search of subject matter, and even the pictorial photographer who has no interest in sales should be able to pick up a few valuable hints.

Creatures Great And Small. H. Rossiter Snyder. Published by Loring & Mussey, New York, 78 pages, cloth bound, price \$2.00.

This book offers a marvelously interesting collection of animal pictures from the camera of H. Rossiter Snyder, plus a brief afterword in which he tells of his trials and tribulations, as well as his pleasures in making them. There are seventy-three pictures in all and subjects

range from large animals such as the horse, the cow, and the goat, to really small ones such as the frog, lizard, and butterfly. They show animals at work and at play, in repose and in action, but above all they prove what fascinating material is available to the photographer in the animal kingdom. Anyone interested in animal photography should certainly obtain this book, for it will suggest a wealth of subjects that are ideal material for the camera.

The Practice of Collotype, by Thomas A. Wilson. Published by the American Photographic Publishing Co., of Boston, 96 pages, cloth bound, price \$2.00.

The Collotype process is a photo-mechanical method of printing with ink from the plane surface of a photographic film. It is a process which is capable of producing prints of great beauty, prints that are soft in tone, continuous in gradation, unbroken by any line or screen, and with remarkable definition and detail. Mr. Wilson's book describes the complete process in full detail, and gives directions as to all necessary equipment, and diagrams so that much of this may be constructed by the reader. The book is designed primarily for the layman who would like to make prints for himself. It will also be found most helpful by the printer or professional photographer who is interested in taking up this work.

Classified Advertisements

This is purely a convenience department for the reader and for that purpose offers Classified Advertisements at cost. 4 cents a word; minimum \$1.00 each insertion. Dealer merchandising ads must be placed in display space at 30 cents per agate line, 10 agate lines minimum. Position Wanted ads, one insertion free. Copy for this department must reach us on or before the 15th and in every case be prepaid.

Items advertised in these columns may be purchased C.O.D. subject to examination and C.O.D. subject to ten days free trial if sent by express. If in doubt, safeguard yourself.

OUTFITS FOR SALE

◆5x7 Ansco Universal View with Wollensak Vellostigmat F:4.5, 9½" in Betax, and Wollensak Wide Angle series III in Betax, also 7 film holders and case. All practically new. Cost \$209.00; will sell for \$160.00. Valley Press, Clinton, N. Y.

◆1-3A roll film Graflex, P. C. size, fitted with genuine 6.8 Doppel Symmer Anastigmat lens—in perfect condition, \$40.00 cash. Will ship C.O.D. for examination. Ernest Yabba, Box 477, Pawling, N. Y.

◆Eastman Graphic Camera, 3¼x4¼, fitted with 4x5, B. & L. Tessar I. C., f:4.5, focusing back, view finder, one plate holder with film kits, \$15.00 cut film magazine like new, \$135.00 value, will sell for \$67.50. P. O. Box 306, San Jose, Calif.

◆3¼x4¼ Graflex, R. B. Model B, f:4.5 in excellent condition. \$42.50. Dr. S. Tashma, 6510 Delmar Blvd., St. Louis, Mo.

◆Elwood 5x7 enlarging machine in good condition. Equipped with Eastman f:4 lens, \$20.00. Jack Bailey, 1615 West Louise St., Grand Island, Nebr.

◆Press Graflex Camera outfit complete with lens \$85.00, without lens \$50.00. Korona 8x10 Home Portrait Camera, 2 holders, Verito lens \$55.00, without lens \$29.00. C. Quan, Box 243, Jerome, Ariz.

◆3¼x4¼ Ruby Reflex DeLux f:3.5 Cooke lens, Plaubel Telephoto lens, 4 holders and pack adapter, cost \$250.00, perfect condition, sell \$150.00. E. W. Simmons, 139 Central Ave., San Francisco, Calif.

◆Simplex Pockette 16 mm. Like new, sacrifice, \$19.50. B. Mounce, 609 Prio St., Lake Charles, La.

◆3¼x4¼ R. B. Auto Graflex, fitted with 8¼" Carl Zeiss Tessar f:4.5, one cut film magazine, film pack adapter, combination and filter holder, with K1, K2, G, and X filters, pictorial diffusing disc, and leather case, like new. List approximately \$250.00, will sell \$135.00 cash. O. E. F., c/o Camera Craft, 703 Market St., San Francisco, Calif.

BARGAINS in new and used movie and still

equipment. Old equipment accepted in trade or purchased outright. Send for bargain list.

FOTOSHOP, INC.

136-C West 32nd Street New York City

MINIATURE CAMERA FANS

MOST LIBERAL ALLOWANCE given for your present outfit on a trade-in on a new LEICA or ROLLEIFLEX.

Leica Bargain: Model F. Leica and f:2 Summar lens, new condition, \$160.00.

MINIATURE CAMERA SHOP

1600 Post St., San Francisco Ph. WA 4484

◆Voigtlander Bessa 2¼x4¼; f:6.3 lens; leather case; condition perfect; \$11.50. Sharman, 165 Post St., San Francisco, Calif.

OUTFITS WANTED

◆Good used Bell & Howell Eyemo 35 mm. motion picture camera. Must have 24 frames a second speed and cheap. Harry Elliott, Box 111, Klamath Indian Agency, Ore.

FOR SALE OR EXCHANGE

◆90.00 Kodak Pupille, F.2, Compur, filters, range finder, case, fine, \$55.00. \$175.00 Eastman Autofocus enlarger, 5x7, \$90.00. Without lens, \$55.00. \$15.00 Rex Print Washer, \$4.50. Can use late Leica. L. T. Walter, Arcata, Calif.

◆Dallmeyer 3A Portrait Lens, Voigtlander Collinear 14½" focus, Xenar f:3.5, 6" in Compur, Vellostigmats 4-3/10 and 5-4/10" focus f:9.5 wide angles in Betax shutters, Tessar 7½" f:4.5, and several others. W. Quackenbush, Granger, Minn.

POSITIONS WANTED

◆All around photographer, aged 30. Nine years as operator and sales manager. Reasonable salary for steady job. Willing to travel. Can give references. Address J. T., c/o Camera Craft, 703 Market Street, San Francisco, Calif.

◆Young man, 21, seriously interested in photography. Desires apprenticeship employment anywhere in U. S. Write Gene Warne, 318 Wellington St., Waterloo, Iowa.

LENSES FOR SALE

◆Voigtlander 20-inch F. 6 Waterhouse stops, \$25.00. Hermagis 25-inch F:6.3 iris, \$30.00. Dallmeyer Portrait F:2.2 rack and pinion Waterhouse stops, \$30.00. Frohock, Moorestown, New Jersey.

PICTORIAL LIGHTING by William Mortensen See inside front cover

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Photomicrography With Polarized Light

George H. Needham, F.R.M.S.

IT is unfortunate that in order to secure the best results with polarized light in microscopy somewhat expensive attachments are necessary, but whereas much interesting and instructive work may be done with simple apparatus which anyone can make, no matter how cheap a compound microscope one may have, it will be the purpose of this article to describe both types of polarizing outfits and show the beautiful photomicrographical work which may be done with them.

This article has a two-fold purpose, first, polarized light is becoming more and more important in science and industry, and, second, the beauty of form and color exhibited by innumerable objects under the micro-polariscope should be much better known than it is at the present time, particularly to the readers of *CAMERA CRAFT*. Many of them, it is certain, would be tempted to record such objects on the photographic plate could they be shown a few of the many marvelous things revealed only by polarized light. It will be found a little more difficult than ordinary photomicrography, but with the background of the author's two previous articles in the February and November, 1934, numbers of *CAMERA CRAFT* and the information contained herein, based on the writer's own experience, as there is practically nothing in the text-books on this special subject, there should be little trouble experienced.

Polarized Light and How It Is Secured

Polarized light is defined by the physicist as light vibrating in one plane only instead of in all planes, as in ordinary light. In other words, attachments are fitted to the microscope which have the power of changing ordinary light to light which is polarized. Then when certain transparent or semi-transparent objects are placed in this beam of polarized light, structure is revealed brilliantly on a black background. With the microscope two things are necessary, the polarizer, to secure light vibrating in one plane to pass through the specimen, and the analyzer, placed above the objective.

The polarizer may simply be a piece of blackened glass or a bundle of thin glass plates set at the polarization angle of 56° , white light striking surfaces at this angle being reflected off partially polarized. Much better, however, is a natural crystal of Calcite, variety Iceland spar, specially selected, cut, polished and mounted by the optical manufacturer, called a Nicol prism. All these are placed below the stage of the microscope and light sent through the Nicol prism or on to the surface of the blackened glass.

The analyzer consists of either a bundle of very thin glass plates or preferably a Calcite prism similar, but shorter than the polarizer, placed either above the objective of the microscope or over the eyepiece, the former being the preferable place, as it does not cut down the field of the microscope.

How to Make a Polarizing Outfit

After many experiments with both the blackened glass and bundle of thin glass plates for the polarizer and analyzer, the following home-made polarizing outfit to fit any type of compound microscope is strongly recommended. It can be made with little effort and at practically no cost, and while it is not to be compared with the expensive professional attachments, it is capable of good work, as may be seen by referring to the photograph of Hair shown in Figure 1.

For your polarizer, fasten six pieces of cleaned negative glass, $1\frac{3}{4} \times 2\frac{3}{8}$ ", at the corners only with Duco Household or other cement, as there must be a film of air between each glass plate, cover the back plate with a thick coat of black varnish, and attach the whole to the 56° inclined surface of a piece of blackened wood or heavy cardboard framework, as shown in use in Figure 1 (A). This size is for the standard microscope, hence for the smaller type of instrument the size will have to be reduced. To use this polarizer, the mirror of the microscope is slipped out or turned aside and the polarizer placed on the table underneath the stage and in line with the optical axis of the instrument.

For your analyzer secure some microscope cover-glasses, 18 mm. square, #1 thickness, from one of the optical manufacturers. In case you are not used to handling such thin glass, the thicker #2 will give satisfactory results also. Clean twelve of these covers with Bon Ami or by dipping in alcohol, polishing same by carefully rubbing with a clean, old handkerchief, holding the cover between the thumb and forefinger. You may break a few of the thinnest ones, but this occasionally happens even with the expert. Attach the twelve covers at the edges only with the Duco Cement, mounting the whole in a cardboard or cork support cut or slotted so that the covers are held at the 56° polarization angle. Blacken the entire mount with Higgins India Ink. An ordinary protractor can be used to get the correct angle for both the analyzer and polarizer. The finished analyzer is shown in Figure 1, C. For small microscopes it will be necessary to make smaller covers, such as taking a 25 mm. square cover and cutting it into four with a tungsten carbide pencil. This analyzer should be used in the bottom of the draw-tube of your microscope. To prevent any stray light from coming through and to hold it upright, stiff cardboard flanges to fit snugly inside the draw-tube should be fitted, as shown

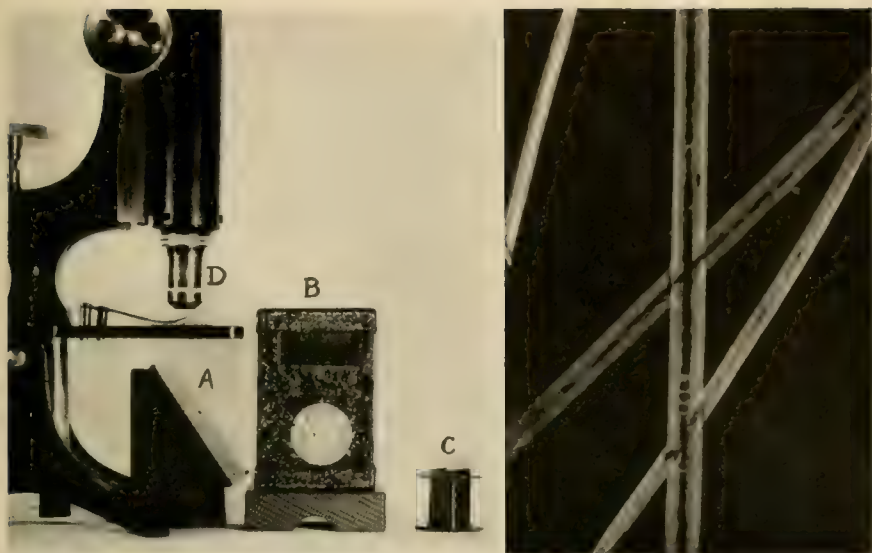


Fig. 1 (left). Simple Polarized Light set-up.

A—Blackened glass type of Polarizer with six plates of glass, in correct position under microscope. Plates set at angle of 56° to base.

B—Box-type of substage lamp placed as close as possible and in line with polarizer.

C—12 Cover-glass type of Analyzer set at angle of 56° to base, used in bottom of draw-tube of microscope above objective, D.

D—x10 Achromatic objective.

Fig. 1 (Right). Hair of Monkey. x75.

Photographed with set-up on left. x10 Leitz achromatic objective, x7 Holoscopic eyepiece, glass plate polarizer, cover glass analyzer above objective rotated to give darkest field, 110 volt substage lamp, Eastman X-1 filter in front of lamp, exposure 5 minutes on Wratten "M" Pan. plate. Contact print on Azo #3, glossy.

in Figure 1, C. Of course, you may use more than 12 covers in order to get a more efficient analyzer, but less light will be passed and by placing too thick a layer of glass in the optical beam, distortion of the image will result.

How to Use This Polarizing Outfit

The above equipment is only suitable for low power work up to 100 diameters, but as the vast majority of work with polarized light falls in this range, it will be found most useful. The best light to use has been found to be the cheap box-type substage lamp placed at the same level on the table as the polarizer and as close as possible to it, as shown in Figure 1 (B). Move the polarizer slightly back and forth while looking in the microscope in order to secure the best results. To correctly set your analyzer with the polarizer, rotate the former, which will be easy if you



Crystals of Quinine Sulphate x60. (Left)

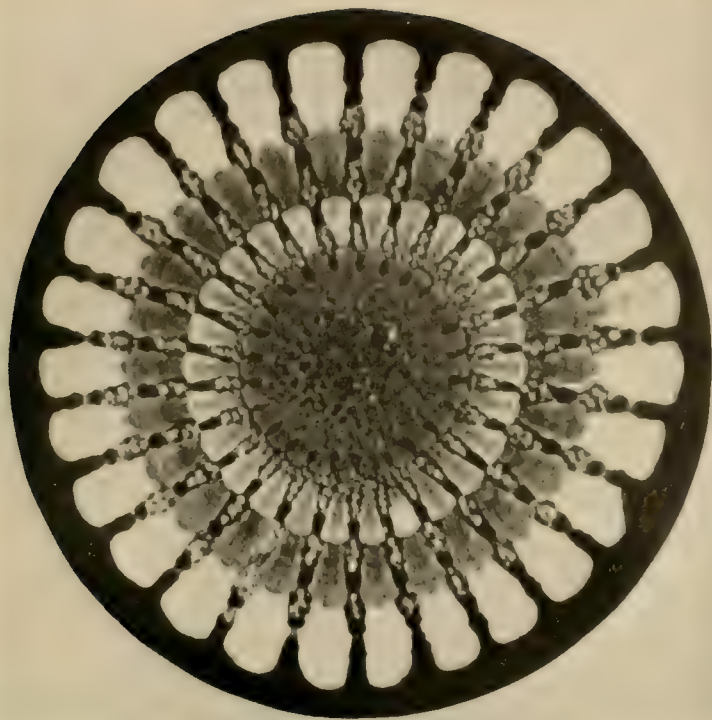
x10 Leitz achromatic objective, x5 Swift cross-hair eyepiece, Swift Petrographical microscope, Swift polarizer—two top lenses removed from condenser, "crossed" Nicols, 6 volt lamp (coil) at 12 amps., X-1 and Watson neutral filters, exposure 15 seconds on Wratten "M" Pan. plate. Contact print on #2 Azo, glossy.

Palate (Teeth) of Whelk. x17. (Right)

Leitz 35 mm. microsummar, no eyepiece, Swift polarizer—bottom lens of condenser only, "crossed" Nicols, 6 volt, 18 amp., ribbon filament lamp, K-3 filter, exposure 2 seconds on Wratten & Wainwright Pan. plate. Contact print on #2 Velox, glossy.

have it placed at the bottom of the draw tube of the microscope, until the microscopic field is as dark as possible, this being done without any specimen on the stage. Then your nicols are what is termed as "crossed". The field will be dark grey, due to some unpolarized light coming through, but the majority of the light is polarized, producing soft, pastel-like colors with many objects which are often quite uninteresting and showing little structure with ordinary light.

Gorgeous color effects are produced by introducing a thin cleavage film of the mineral selenite at any point between the analyzer and polarizer, but usually placed between the specimen and the polarizer. To make these selenite films, secure a piece of fairly clear selenite from a mineral dealer and cleave as thin as possible with a Gillette or other wafer-type of razor blade. Make a great many and select those which give you a colored field when observed under the microscope with your nicols



Section of Sea Urchin Spine. x70.

x10 Leitz achromatic objective, x5 eyepiece, Swift polarizer—two tops lenses removed, "crossed" Nicols, 6 volt, 12 amp., coil filament lamp, X-1 and Watson neutral filters, exposure 8 seconds on Wratten & Wainwright Pan. plate. Contact print on #2 Velox, glossy.

"crossed". For the best results these selected pieces should be mounted in Canada balsam between thin cover-glasses. A thin film of mica is also often used in combination with one of the selenite films. With these thin films of selenite and turning the analyzer or rotating the specimen, many novel and very striking color changes will take place, particularly with chemical crystals which may be easily prepared. No two slides made from the same chemical are exactly alike and there are hundreds of them to work with, hence this is one of the most fascinating branches of microscopy. Observing them under polarized light while crystallizing is very fascinating also.

Suitable Specimens

The following are some of the best objects for observing with polarized light. All have been tried and found excellent with the home-made polarizing apparatus and many are well-worthy of your best photographic efforts. Those marked * are more brilliant with the glass plate polarizer and analyzer than the others.

Place a particle the size of a large pin-head in the center of a slide, place a cover-glass over it, and heat slowly and carefully over a spirit lamp until the material melts and forms a very thin film between the two glasses. Beautiful crystals will form on cooling.

- *Pyrogallic Acid
- *Hydroquinone
- *Coumarin
- *Hippuric Acid
- *Salicin
- *Salicylic Acid
- *Santonin
- *Sulphonal
- *Trional
- *Tartaric Acid
- *Terpin hydrate
- Thymol
- Spermaceti
- Stearin
- Butter, margarine, lard,
and other fatty materials

Specimens mounted as is in Canada balsam.

- Starches
- *Animal hairs
- *Textile fibers
- *Rayon
- Plant hairs (scraped from under surface of certain leaves).
- *Inclusions in Mica (mounted in a thin film).
- Fish scales
- Crystals in outer skin of onion
- Foot of Wasp
- Eel skin
- Palates (Teeth) of Molluscs

Make a dilute solution in water and either use heat until crystallization starts to take place around the edge of a drop on a slide, or allow drop to dry spontaneously.

- *Metol
- Amidol
- *Asparagin
- *Copper sulphate
- *Potassium chlorate
- *Potassium dichromate
- *Ammonium bitartrate
- *Sodium nitrate
- Quinine sulphate
- *Picric Acid

Sections ground thin so that they are semi-transparent. Mounted in Canada balsam.

- *Rocks
- Wood of various kinds
- *Claws of animals and birds
- *Horns of animals (Rhinceros, etc.)
- Sea Urchin spines
- *Whalebone
- *Nails—human

Microscope Suitable for Photography with Polarized Light

Any modern student-type of microscope fitted with a low power objective and attachable Nicol prisms sold as a set by the optical companies is quite satisfactory for photographic work up to x100, providing a powerful light source is used and a water cell is placed between the lamp and the polarizer to cool the beam. Otherwise the prism may be damaged, as it is quite sensitive to heat. All the photomicrographs illustrating this article are below this magnification, and all except the quinine sulphate one taken with the regular microscope fitted with at-

tachable prisms and a simple condensing lens fitted over the polarizer. This condenses the polarized light on the specimen and is a great aid in applying critical methods of illumination to polarized light. After placing the microscope on the horizontal optical bench the writer turns the analyzer to secure a light field and critically focusses an image of the diaphragm of the lamp in the plane of the specimen by moving the polarizer and lens attached up and down in its fitting, previously having moved the rack and pinion of the lamp until an enlarged image of the light source is in focus on the bottom of the polarizer (Kohler's Method). Then the analyzer can be turned back to its previous "crossed" position.

Of course, for serious scientific work the chemical or preferably the petrographical microscope is much better, particularly as the position of crystals or various minerals in rock sections in relation to the cross-hairs in the eyepiece is extremely important. The quinine sulphate photograph was taken with a petrographical microscope. It is very unfortunate that such a fine instrument for research is costly and hence limited in its use.

Objectives

The most suitable and useful objectives for photography with polarized light are the achromatic ones of x3, x6, x8 and x10. Be sure that the lowest powers have two systems of lenses, as they will give you better definition and a flatter field than the more commonly seen single system lenses. For very low powers the 50 mm. and 35 mm. micro-anastigmats or 50 mm. and 25 mm. anastigmats of f:4.5 or faster, used on the microscope without an eyepiece are excellent, having a very flat field and fine color correction. For the occasional higher power photograph with polarized light the x20 and x40 achromats will give satisfactory results, but for the best work the apochromats of this power or the fluorite x40 are to be preferred, due to their better color correction.

Eyepieces

The x5, x6, x7, and x10 Huyghenian eyepieces should be used with the above achromatic objectives. The lower power eyepieces are to be preferred and will be found to be the most useful. Similar powers in the Compensating type of eyepiece should, of course, be used with the fluorite and apochromatic objectives.

Illumination

The Bausch & Lomb 18 ampere, 6 volt, ribbon filament lamp for A.C., has been used for a number of years for illuminating specimens to be photographed by polarized light both in monochrome and in natural colors and it has given most excellent results. The coil bulb interchangeable with the ribbon filament bulb is almost equally as good, and both will give even illumination all over the plate, so important in any kind of photomicrographical work, if Kohler's method is used. Spencer Lens Company makes a less expensive lamp, due to using a 100 watt, 115 volt, mono-plane filament projection bulb, hence requiring no transformer. It is fitted with a condensing system and a large iris diaphragm. Unfortunately with this type of bulb it is much more difficult to get even illumination due to the fineness of the filament and its wide spread and ground glass may have to be used with it, thus cutting down the intensity tremendously.

While the writer has had no experience with this particular lamp, there seems to be no reason why it would not give satisfactory results up to x100, as critical methods of illumination are not so essential with polarized light as with other methods used in microscopy.

To begin with one could use a 60 watt or higher Mazda or a Photo-flood bulb in a light-tight housing and have a simple condensing lens to bring the light more or less to a focus on the back of the polarizer. Place the lamp a foot or a foot and a half away from the microscope and endeavor to concentrate a disc of even light on the polarizer. If the microscope and camera are in the vertical position do the same thing with the aid of the mirror. Even the box-type of substage lamp will give a satisfactory result, (see Figure 1, photograph of Hair), but its use, other than as a beginning, is not recommended, and also exposures are too prolonged.

Filters

The most useful filter is the Wratten X-1, pale green. With the panchromatic plates recommended below this will give correct rendering of colored specimens in monochrome. No filter need be used with tungsten lighting with Eastman Commercial Panchromatic film. Where there is little color, the object being white on a black background, use the Wratten "B", green, or the "C", blue-violet, to get the best definition on the plate. This particularly applies to certain crystals.

A Watson glass neutral filter, transmitting 20% of the light, has been found most useful to cut down the glare from specimens under polarized light. Similar filters are made by the optical manufacturers and by Eastman. Permanent glass neutral filters are to be preferred to those of gelatin film mounted between glass. Cutting down the amperage of the 6 volt, 18 ampere lamp mentioned above by means of a variable rheostat on the 6 volt side has aided greatly also, but this has the disadvantage of putting more red into your light source.

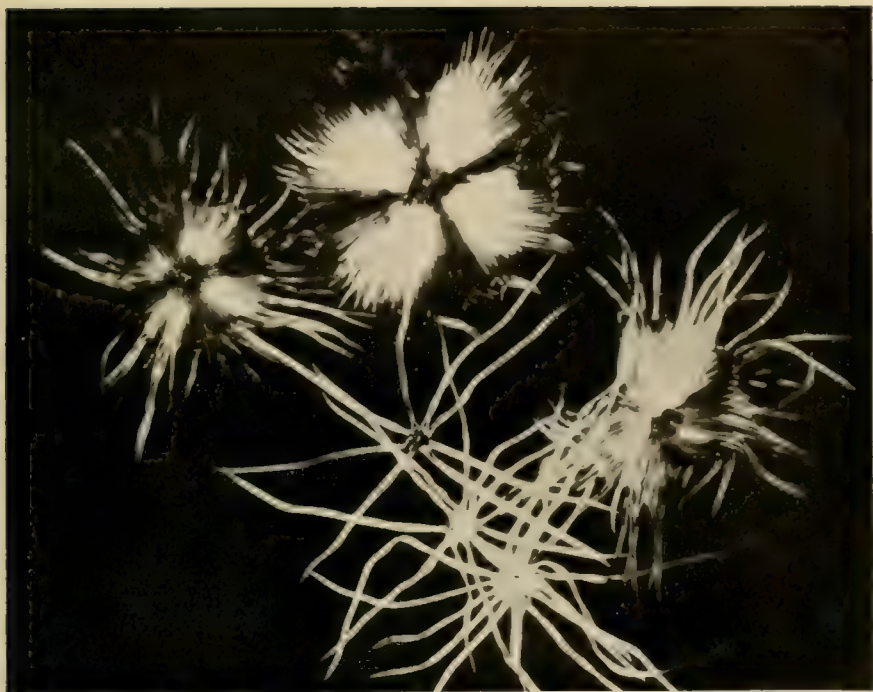
Plates

The best plates for photography with polarized light have been found to be the Wratten & Wainwright Panchromatic, being of medium contrast. The Wratten Panchromatic "M" has been used with good success also, but it is too contrasty a plate in most cases. It was used with good results with the glass plate polarizer, where the contrast in the specimen itself is not as great as with the Nicol prisms. For those who prefer film, Eastman Commercial Panchromatic film has been found to be excellent.

For those who have a liking for photography in natural colors, polarized light with the microscope offers unique possibilities. The author has done some very fascinating work with the Agfa and Finlay processes, but details will have to wait for a future article.

Exposure

The one thing to guard against is over-exposure. The writer's first work with polarized light was terrible due to this fact, but with the use of a neutral filter and means of cutting down the intensity of the light when necessary, exposures can be prolonged to seconds instead of the inconvenient fractions of a second. The data given with the photomicrographs will serve as a guide to correct exposure. As the intensity of specimens varies so much with polarized light, it is best to make trial,



Hairs (Two Types) from Leaf of *Shepherdia*. $\times 70$.

Watson 1" achromatic objective, x5 eyepiece, Swift polarizer—two top lenses removed, "crossed" Nicols, 6 volt, 12 amp., coil filament lamp, X-1 and Watson neutral filters, exposure 15 seconds on Wratten & Wainwright Pan. plate. Contact print on #1 Velox, glossy.

exposures on portions of cut up plate or film, increasing $\times 2$ or decreasing by one-half each time.

Developer

All the author's negatives in recent years, including those with polarized light, have been developed with very satisfactory results with the two solution developer given in the article on Low Power Photomicrography in the February, 1934, number of *CAMERA CRAFT*, to which the reader is referred. If you are now using a developer that is satisfactory, use this, as you probably have mastered its use. If the results are not satisfactory, try the two solution developer referred to.

Paper

Glossy Velox paper #2 has been found very satisfactory when Nicol prisms are used. Occasionally Velox or Azo #1 is used. For work with the plate polarizer Velox or Azo #3, more contrasty papers give a better print. Squeegee and dry on a chromium or ferrotype plate. More artistic results might have been secured by printing on a velvet or other type of paper. I leave that, however, for my fellow readers of *CAMERA CRAFT* to experiment with and send me some of their results.

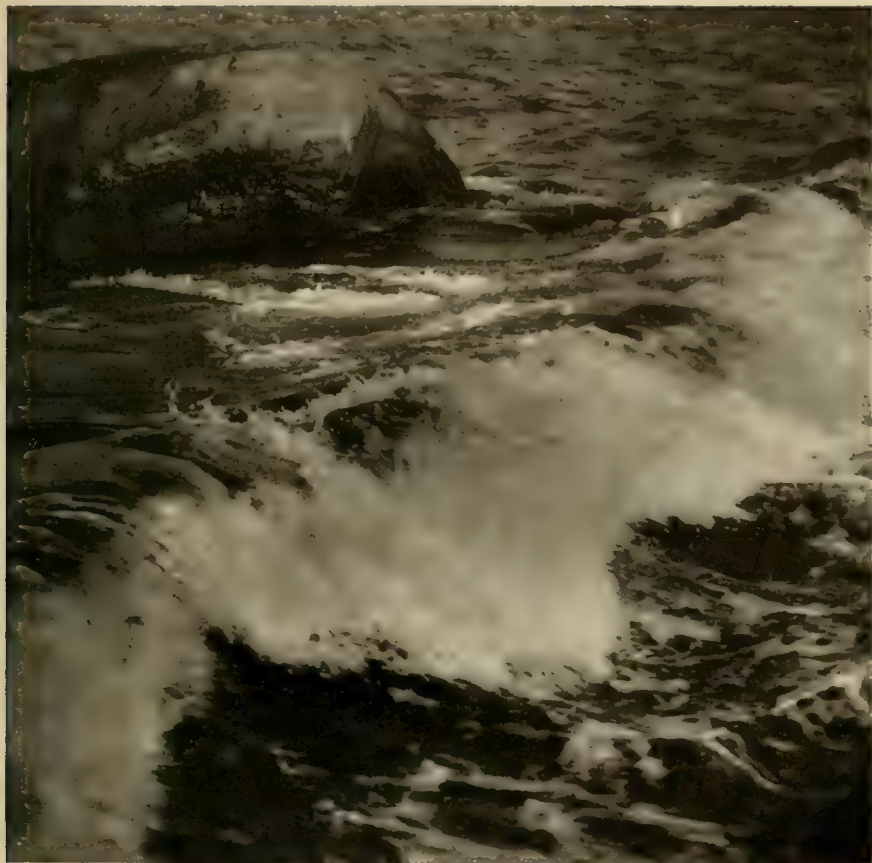
Surf Photography

William S. Davis

THOSE who instinctively respond to "—— a windy day, with the white clouds flying, and the flung spray and the blown spume, and the sea-gulls crying" may well wish to interpret the wilder moods of sea and sky as manifested by white crested surges rolling shoreward, long curving lines of undertow marking the "whitened margin of the main", and magnificent geysers of spray that rise high in the air when a roller spends its force against a rocky barrier.

Material is abundant along the coasts, as it has been through the ages—but how to suggest the majesty of the sea's elemental force on a few square inches of paper or canvas is a different matter. Synthesis, in so far as this is possible by photography, seems to be the key to proper interpretation with a camera. A little that is typical will suggest much which of necessity has to be omitted, and will do this in a stronger manner than is possible where details are needlessly multiplied. Standing on some vantage point where one can behold miles upon miles of storm churned waters may produce a profound effect on the mind, but recorded on a sheet of paper the scene is far from impressive. So, don't yield to the temptation to get as much subject-matter as possible onto one bit of film. Instead, look about for some definite feature which can be "played up", and then concentrate upon this to avoid scattering of the interest.

Where a large portion of the material used to form a composition is continually moving and changing shape, the land masses included should be chosen with due regard for proper relationship, compositionally, to the planned for position of waves and foam. Since the amount of beach or rocky ledge exposed to view varies with the height of an incoming or receding wave, it is often advisable to study a given spot for quite a while to determine the best viewpoint and the best location in the picture for the



"Driving Shoreward"

William S. Davis

fixed subject-matter. And it is also well as a measure of personal safety to keep a wary eye to seaward when working close to tide line, as extra large waves sometimes sweep considerably further inshore than usual, making it necessary for the photographer to beat a hasty retreat.

Having settled in one's mind the best general position in the picture-space for the lines of the shore and the mass of a breaking wave, the next step after getting the camera in readiness is to watch for the psychological instant when the shutter should be released. Breaking waves differ so much in both force and movement that the spray effects produced are extremely varied in character. However, the progress of incoming waves



"Opposing Forces"

William S. Davis

can be followed, and when shooting combers it is worth while to watch for the big fellows. But in the case of flying spray effects the way a wave strikes an obstruction is of greater importance than size alone. A large wave may sweep over a low rock ledge before its crest breaks, producing an eddy of boiling foam no higher than the wave itself, whereas another having a shorter reach hits the rock mass "head on", thereby sending skyward a beautiful spray formation. Noting the action of previous waves of similar size is helpful in estimating in advance the probable striking position of the wave one expects to photograph, though the *form* that the spray will assume as it rises and is caught by the wind is unpredictable. This, however, is one of the things that render the photographing of surf effects fascinating, and something of a sporting proposition, as well.

Height of the tide also affects wave action, owing to differences in the under-water formation of the shore, some locations yielding the best effects at the top of the tide, while others present their most desirable features at half or low tide.



"Wind and Sunshine"

William S. Davis

Lighting, and the character of the sky, have much to do with the effective rendition of surf. Good sunlight from one side brings out the most detail in flying spray and foaming undertow. However, when the sun is fairly low and its light suitably modulated by passing clouds, very beautiful effects are often seen when facing toward the sun, the sparkling path of sunshine on foam and wet sand, or the glinting highlights on the crest of a breaker, imparting luminous accents that can be forcefully employed. But this sort of lighting is not well suited to a composition featuring a mass of flying spray, as the latter appears dull and heavy when seen against the light. Having the sun directly at one's back is undesirable, as it eliminates shadows and destroys detail in the foam. Dull illumination on an overcast day is not desirable for most surf subjects, being suited only to compositions that are to be worked out in broad masses of flattened tone.

Tonal quality plays an important role in pictorial renditions of surf. While a long scale must sometimes be used to adequately cover the range from sparkling foam to dark rocks, harshness is to be avoided by taking care to preserve some detail in both darks and lights, as well as throughout the intermediate tones. And it is very important to get good tone relationship between surf and sky, keeping the general tone of the latter

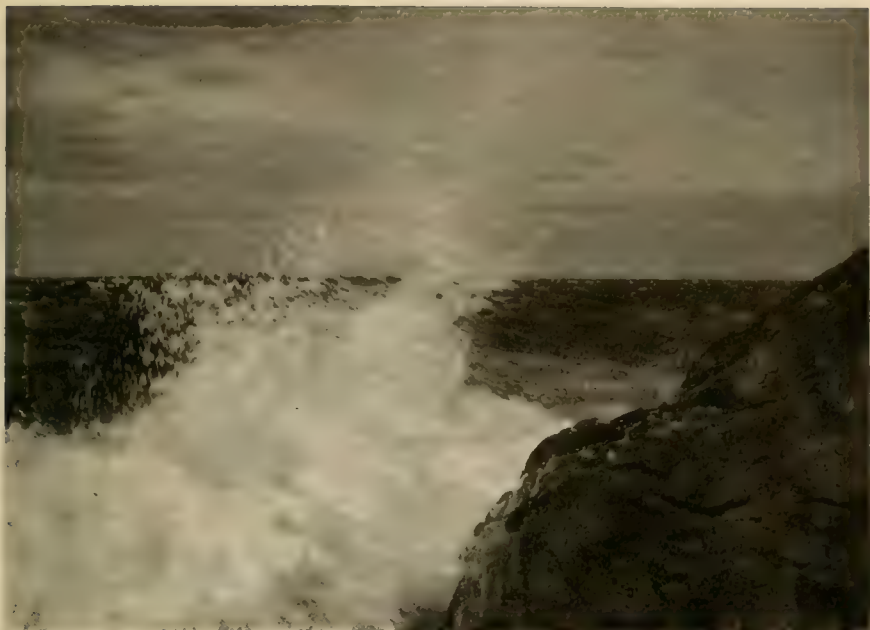
enough lower in key to bring out the high-light accents in the foam. A bank of gray clouds makes a fine background for flying spray, though in mid morning or late afternoon a clear blue sky is usually deep enough in tone to afford good visual contrast with white foam. Modern color-sensitive, non-halation materials are capable of recording such a long scale of tones that it is comparatively easy to render well the range of contrasts that so frequently exist in shore subjects. Moreover, their sensitivity is ample to permit the employment of a filter whenever needful to depress the registration of light blue and violet without under-timing when only medium size lens openings are available; thus removing any handicap in this particular to owners of low-priced instruments who wish to do marine work.

The writer has obtained good results with various types and sizes of cameras, used in the hand and on a tripod. Employment of a tripod has its drawbacks when a gale is blowing, but it does enable one to keep the camera pointed steadily in a given direction without constant watching of the image in a finder, thus rendering it possible to give undivided attention to visual observation of wave action up to the instant of releasing the shutter. The camera will have to be held down with one hand however, or the tripod anchored in some manner (as by means of a strong cord attached to the head and weighted at the lower end) to keep the outfit from upsetting. If choice or necessity dictates that the camera be held in the hand, a direct-vision finder will be found preferable to the reflecting form, and the writer's choice is the simple open frame type which has no glass to be affected by flying spray.

A lens-hood will be needed to keep the lens free of spray, and this should project as far forward as possible without cutting off any of the image. An even better arrangement if one expects to do much work in this line is a box-like stiff cover designed to protect the bellows and shutter as well as the lens. If the instrument is not protected the coating of salt that is sure to accumulate should be removed at the first opportunity by means of a cloth wrung out of fresh water, to prevent ultimate corrosion of the metal parts and damage to leather surfaces. It is also well to apply afterward a very little light oil.

The best rendering of motion in spray is secured by exposures of from 1/25th to 1/50th second. Shorter exposures are likely to "freeze" the action unpleasantly. Adjustment of the exposure to lighting and sensitivity of the film or plate is obtained by regulating the size of the diaphragm opening.

The critical point in photographing surf is in making the exposure at precisely the right instant to fix the effect at its best. To a certain extent one must anticipate the probable effect to allow for the slight time lag that occurs in translating the decision to expose into actual opening of the shutter. In the case of flying spray the maximum height of the foam can only be recorded by pressing the shutter-release a fraction of a second ahead of time, while the spray is still rising. Even with practice, however, one cannot always hit it right, but when an outstanding result is attained this affords compensation for past disappointments and lost efforts.



"When Foaming Billows Lash the Shore"

William S. Davis

The technical details relating to the illustrations are as follows: *Opposing Forces*. Made in early autumn on Long Island, N.Y. with a $2\frac{1}{4} \times 3\frac{1}{4}$ folding pocket camera and R.R. lens. Exposure $1\frac{1}{25}$ second at f8, with an Ingento series A color filter on lens, upon ordinary Kodak roll-film. Bright sun at one side, 2 P.M.

"When foaming billows lash the shore." October day, 11 A.M., bright sun. $1/30$ second at f16, on Inst. Iso plate, backed.

Driving Shoreward. Early November, 10:45 A.M., good light. Folding plate camera, $3\frac{1}{4} \times 4\frac{1}{4}$, fitted with Ilex anastigmat of 6 inch focus. Exposure $1/25$ second at f8, on Barnet Self-Screen Ortho. plate.

Wind and Sunshine. November day at 2:30 P.M. Plate camera and anastigmat lens. Exposure $1/25$ second at f11 on Orthonon plate.

All these subjects were obtained on the Eastern seaboard in approximately 42 degrees North latitude. Those familiar with the sensitivity ratings of various plates and films will know that those employed are slower in speed than the extra fast films like Verichrome or Plenachrome, or the more rapid panchromatic grades of plates and film.

Prints used for reproduction are all enlargements on bromide paper.

Dementia Camera^{*}

Charles D. Raudebaugh

NEWSPHOTOGRAPHY is the fastest-moving, fastest-changing phase of camera work. It's the craziest occupation that men ever invented. It means overwork and underpay. It means days of tedious monotony and it means days of exciting adventures. It is conducive to nothing but chronic migraine, acute alcoholism and severe cases of indigestion.

But the news photographer lives the grandest life of all the myriads of men who operate cameras.

Item Number 67-B in the Great American Credo is that newspaper men, particularly cameramen, are insane, or at least slightly strange, mentally. The supposition is perfectly correct. Sam Crow, veteran of 30-odd years of shutter-tripping for the San Francisco Examiner, says you don't have to be crazy to be a news cameraman, but it helps a lot. And if you aren't a bit "tetched in the haid" when you start, the work makes you so.

Let's introduce ourselves, photographically speaking, and then get down to brass tacks.

First of all, we have to have equipment that will serve us for practically any sort of an assignment, equipment that is versatile and highly portable, equipment adequate, but not cumbersome; apparatus that can be handled quickly, but without sacrificing quality for speed. Best answer to these requirements so far found is the 4x5 inch Speed Graphic camera, equipped with a 13.5 cm. Zeiss Tessar f:4.5 lens in a Compur shutter. The camera's focal plane shutter is used for outdoor work; the Compur, augmented with a photo-flash synchronizer, is used for indoor work. Principal synchronizers on the market today permit taking flash light pictures at 1/200th of a second, at ten feet, with stop f:11, using, of course, a super-panchromatic film. Incidentally, use of the super-pan films is by no means universal in the newspaper trade. Many art directors declare orthochromatic films give better tones for newspaper reproduction. Most Hearst newspaper photographers use nothing but Ortho-Press, an ortho film equal in speed to super-pan, but without the over-correction in flesh tones.

^{*}Illustrations courtesy of the San Francisco Examiner



Charles D. Raudebaugh

Figure 1. "Fortissimo"—Gaetano Merola caught in action during a rehearsal of his Standard Symphony. The shutter speed of 1/200th was not fast enough to stop Mr. Merola's swinging hands, but it did show how strenuously this director works. The picture was shot at f : 5.6 on Defender Xtra Fast Pan film at a distance of 15 feet with a 16.5 cm. Zeiss Tessar.

The Speed Graphic, 9 or 12 double film holders, and from a dozen to eighteen No. 20 flash bulbs, are usually carried in one's bag. You'd be surprised how heavy that bag gets at the end of the day, or when you are climbing up the side of a swaying ship on a rope ladder, with the bag strapped on your back. If the assignment permits, we also carry a tripod. Despite the comparatively satisfactory work of the photoflash synchronizer, we like to put our camera on a tripod and shoot "open flashes" whenever the subject permits. Speed flash synchronizers occasionally go wrong, and somehow seem to miss completely or under-expose on the one big shot of the month. However, that's just another little problem that adds gray hairs to our heads (if we aren't driven bald by worrying about the editor's demands!).

For swift focussing, we use a range finder, attached to top of the camera. Next development, of course, will be a built-in range-finder; but until such equipment is available, we content ourselves with finding the distance, setting the scale, and then "popping" the picture. If the subject is unwilling, or time does not permit, we judge the distance, and "pop" anyway. Surprising the faculty some of the old-timers have developed to distinguish between eight feet and nine feet.

The Graflex formerly was standard press equipment, but has been outmoded by the greater ease of handling the Speed Graphic in a crowd, and by the adaptation of the speed-flash synchronizer to the latter camera. The Graflex is used these days principally for sports pictures. It still is the old reliable of many news cameramen for outdoor work.

The principal charm of the news photographer's day is that he never knows where it is going to start, or where or how it is going to end. Perhaps he will be able to keep that engagement he had made for the evening, and perhaps he will be tied up on a story for the next three weeks, day and night. All he can do is keep his film-holders loaded and pray for the best.

Whenever a man or his activities makes news, the news photographer has work. If a man murders his wife, or is murdered by her, the photographer goes hopping out with a reporter* to get pictures of the man and/or his wife.

* (There is no need to put the footnotes at the bottom of this article, since it is much easier to read them right here. The reporter is the man who is supposed to find out what the story's all about, and to let you in on some of its secrets so you can get pictures illustrating the story. I say he is *supposed* to.)

Right here is an opportunity to use that tripod we've been lugging about so hopefully. We rack out the bellows on the Speed Graphic and copy a picture of the dead man, or the dead woman. As for the living figure in the story, we might have anything to contend with—a person who doesn't mind having pictures taken, a person who will pose in any position, a person who lunges at us and tries to smash our camera.

Here again is another use for that tripod: self defense.

First thing a news cameraman learns is that it pays to get on good terms with members of the homicide squad, with all policemen. They can



Charles D. Raudebaugh

Figure 2. "Justice and Mercy"—A courtroom picture with good action. A bailiff lights a cigarette during recess for Albert Kissel, who with Clyde Stevens recently perpetrated a series of bank robberies here and climaxed their splurge of crime by engineering the San Quentin prison escape plot in which three members of the State Prison Board were kidnaped. The photograph clearly shows Kissel's wounded hand, mangled by a shotgun at the time of his arrest. In the background stands a police inspector, member of the bank detail. A speed-flash at 1/200th at f:11 on Defender Xtra Fast Pan film with a 16.5 cm. Zeiss Tessar lens.

help us on stories by putting in a word with men and women to the effect that "it's all right to pose for the newspaper boys." Of course, if the person won't pose, and steadfastly ignores all our persuasive arguments, we have no other choice but to resort to "grab shots." Here the speed-flash synchronizer is a god-send. It enables us to "grab" pictures of people as they come out of doors, as they walk down hallways, as they are put in police cars, as they are booked at the jail, as they appear in court. Most grab shots are made by "guess focus," that is, made under circumstances which do not give us time to obtain the range and set the camera to scale.

This sounds very confusing. It is. Try it yourself, sometime: chasing a person from the front door of police headquarters to the city prison with your camera case slung over your shoulder, trying to keep out of the way of the other cameramen and trying to keep them out of your way, making every effort to be in position and in focus for that one brief moment when the subject relaxes his vigilance and drops his hands. Of course, it doesn't help your blood pressure to have the thousand-and-one little technical problems on your hands, either: seeing that the focal-plane shutter is open, that the front shutter is set after each exposure, that a new bulb is in your speed-gun, that you turned the slide on the exposed film holder and put in a fresh one. . . .

If you can stand it, read on:

Not all press work is chasing criminals, however. There are divorces and divorcees ("grab shots" of the society dames who don't want their pictures taken, and crossed-knee pictures of chorus girls who do), ("that is, who do want their pictures taken"), parades, and the eternal quest to get a "different" angle or a different view. There are fire pictures, where you stumble over huge, writhing hoses, get drenched in streams of water, have your new hat spoiled by a deluge of fire-extinguishing chemicals, and climb telephone poles and fire escapes to get a good general view. There are shipwrecks, where you drive all night along bumpy and unfamiliar roads, climb down precipitous cliffs at dawn, and take shots of the ship pounding to pieces on the rocks a mile away with a telephoto lens. There are unexpected airplane flights, when you suddenly find yourself leaning out of the cockpit of a plane trying to get pictures of a big fire, or shots of a trans-oceanic flyer. There are dizzying shots out of skyscraper windows to show how Mr. X leaped or was shoved to his death.

And of course, in San Francisco there has been no end of climbing of bridge towers. Incidentally, that's a tender subject with many of the boys. We are sent up on these things by editors who are afraid to look out of a second-story window and who haven't the physical strength to climb straight up a 500-foot ladder, much less carry a camera and a flock of holders. And then when you bring in the pictures of workmen hanging by their teeth to a slender beam, the editors say, "My, my! Just imagine the nerve those guys must have to work up there!" And there's never a word of thanks to you, who have simply taken another assignment in stride.



Charles D. Raudebaugh

Figure 3. "Mobster"—A "grab shot" of Joe Miller, alleged member of the notorious Jake Fleagle gang, taken in City Prison here. Miller had been covering his face with his hands, but relaxed his vigilance for a moment when the photographer kneeled to the floor to get another film holder and some flash bulbs from his bag. The picture was taken by guess focus, with the camera and flash gun both on the floor. Exposure: $1/200\text{th}$ at $f:8$ with one photo-flash bulb on Eastman Ortho Press film, with 13.5 cm. Zeiss Tessar.



Charles D. Raudebaugh

Figure 4. "Catwalk"—It made no difference to the editor that the day was dull and that a picture such as this meant a climb of more than 500 feet up a straight ladder with a lot of equipment—news is news and the placing of the first cat walk on the San Francisco-Oakland Bay Bridge was pretty good news. This picture was taken a few minutes after the first section of catwalk had been strung out along the supporting cables. Exposure: 1/40 at f:8 on Ortho Press film with 13.5 cm. lens.

There are sports assignments galore; name all the sports you can, and you'll find news cameramen on the job. Speed-flashes indoors, of course, and Graflexes outdoors. There are excursions to the zoo, to baby shows, and society affairs.

As a matter of fact, at any given moment the news cameraman might be anywhere within a 100-mile radius of his office, taking a picture of anything from a new boat to a four-legged cockroach. He frequently finds himself out in the rain taking pictures when if photography were his hobby instead of his business he would be in front of a warm fire with a book . . . or maybe a long, tall glass.

Usually there is time between assignments to develop his own negatives and make prints, but there are days when he turns over his holders to the "inside man" in the photo department, loads up a couple more holders, and dashes right out again. There are days when he never gets time for lunch; and there are days when he has lunch at the expense of some club or organization, whose president he is to photograph.

And, of course, there are always editors to fight with. Some editors



Charles D. Raudebaugh

Figure 5. Lord Lansdowne in the grip of one of them "what-do-ya-call-em" holds at the hands, or the feet, of Jack Reynolds, on the night Lansdowne won the welter-weight championship at Civic Auditorium. A speed-flash at 1/200th at f:11 on Defender Xtra-Fast Pan film with a 16.5 cm. lens.

know nothing about cameras, some know a little, and a few know a great deal. I think the pictorial excellence of the Hearst papers is due to the fact that most of the editors know quite a bit about photography. But—and this is a true story, s'help me—I know of an editor here who instructed a cameraman to get a night shot of San Francisco from an airplane, using an open-pan type flash powder gun for illumination. That was in the days when flash powder was used on all assignments, however, and the editor has learned much since. Indeed, it might be said his education began the moment he made the assignment.

Complicating this hare-brained existence is the fact that the news cameraman is just as much a photographer as any amateur. He has his moments of joy and despair, photographically speaking. He has his good days and his bad days; I've never known a news photographer yet who doesn't make a double exposure now and then, or forget to pull the slide. The best double exposure record I ever heard of was made by a news cameraman of many years experience on metropolitan dailies. He got excited at a really big fire and took thirteen pictures on one negative.

Fortunately, the paper had assigned three cameramen to the fire. We have our darkroom troubles, too. There are days when we just can't hit a print exposure, and on such days we are glad that the department has more than one man. There are moment of satisfaction when we see one of our pictures, which we think has pictorial possibilities, given a good position or a large cut in the paper; and there are dejected times when the editor calmly tosses our masterpieces in the waste-basket.

Don't ask how one gets to be a news cameraman. I've been trying to figure that one out for some time. It seems you learn to operate a camera, and then you have bad dreams at night. Next step is to have your vest so saturated with metol that you can soak it in water and develop a picture in it. Just about the time you begin to wring the hypo from your socks to fix the pictures, you wake up and discover that you weren't having bad dreams at all—you discover you are a news cameraman.

Dufaycolor Processing

Bland H. Casebolt

IF we could only have pictures in natural colors, is the cry of thousands. Dufaycolor has come to the front and has supplied us with the proper film. Now it is only necessary for us to learn how to use it.

Dufaycolor is very similar to the more or less well known Agfa, Lumiere and Finley processes, in that it has the colored screen in front of the film and the image passes through this screen before registering on the sensitive film. The idea of a ruled screen is by no means new; such a screen was patented in the year of 1868 by one Louis Ducos du Hauron.¹ The ruled screen idea was further developed by Professor Joly of Dublin and an American by the name of James McDonough. Due to

¹Photography Principles and Practice, 2nd Ed. Page 544.

difficulties in ruling the screen, the plate had a short life. Since that time mechanical and chemical processes have reached a high state of perfection and it is now possible to consistently manufacture a high grade film having the screen ruled upon it.

Due to the transparency of the dyes used to make up the screen and the very high speed of the emulsion coating, this film becomes the fastest material of its type. With the same light value the speed comparison is as follows:

Dufaycolor	1/20
Agfa Color Plates	1/2
Lumiere Filmcolor	1/4
Finley Plates	1/6

While the manufacturers of this film claim that no filter is necessary in daylight, I find that without some means of correction, the reds are too strong and green grass and trees are apt to turn out brown. After some study and experimenting I find that a filter can be obtained, on order from the Eastman Kodak Company known as the Wratten Number 51, Napthol Green 1, the color of which is a very light yellowish green. This filter holds back about five percent of the red and the blue, the majority of the ultraviolet and transmits most of the yellow and green. By its use red is rendered somewhat darker and more natural, while greens and yellows appear brighter.

For mazda and photoflood light I recommend a combination Wratten filter Number 51 and 78-A. This filter can also be obtained on special order from the Eastman Kodak Company, the price being double that of the single filter. Your photographic supply dealer will be glad to obtain these filters for you. A good sun shade should also be used as any stray light will effect the color values.

As this film has to be reversed before projection and as there is no means of correction for over or under exposure it can readily be seen that the correct exposure is necessary for best results. While a picture will be obtained with a slight overexposure the color values will be badly off and the whole picture will have a washed out or faded appearance. I favor a slightly underexposed or dark picture in preference to one that is overexposed or thin. For this reason a good exposure meter should be used and the photoelectric type is to be preferred. The optical extinction type was found to vary (with both the same operator and with different operators) so much that I do not feel that they are satisfactory for color work. Tests show that the following speed ratings give satisfactory results.

This table includes the added exposure for the filter.

<i>Meter</i>	<i>Daylight</i>	<i>Mazda or photoflood</i>
Weston 617.....	6	3
Weston 650.....	8	3
Photoscope.....	18 Scheiner	
Weston Leicameter.....	18 "	
Wellcome calculator.....	8 "	

For light scenes that are fifty feet or more away and for all scenes that are two hundred feet or more, one-half of the exposure indicated or one stop smaller should be used. For an example, take a landscape having no foreground, the meter calls for 1/30 second at f:6.3 use 1/60 second at f:6.3 or use 1/30 second at f:9. When photographing people it is best to take the meter reading at about one foot from the subject, care being taken that you do not cast a shadow on the subject in making this reading. Exposure tables are at best only a guide, as shutters vary in speed and meters do not always match.

Lighting for Dufaycolor should be a little on the flat side, however some modeling is desired. This film retains remarkable shadow detail, which by the way cannot be said of some color film on the market.

Processing Dufaycolor film is not a hard task but does require careful attention to details. The first formula that was suggested by the manufacturers has not, to my way of thinking been improved upon, so I give it here.

Water (125° F—52° C)	1000 ml	32 ounces
Metol.....	6.5 grams	95 grains
Sodium sulphite.....	50.0 grams	1 1/4 oz. 92 grains
Hydroquinone.....	2.0 grams	29 grains
Potassium bromide.....	2.75 grams	40 grains
Ammonium hydroxide (.91) ..	15.0 ml	230 grains

The developer can be made up into a stock solution leaving out the ammonium hydroxide, adding this just before using the developer. This will assure the keeping qualities and the strength of the solution. The ammonium hydroxide should be the best grade chemically pure solution of ammonia gas having a specific gravity of .91. The correct specific gravity of the ammonia is VERY IMPORTANT. I recommend that this reagent be purchased from a dealer in laboratory chemicals.

My experience leads me to believe that any of the small tanks used for developing ordinary film can be used with satisfaction for processing color film. Reels made of glass have been recommended but on account of extreme speed and color sensitivity of this film it must be handled in total darkness and I do not believe the glass drum affair to be as easy to use under these conditions.

The developer is cooled to 65 degrees F (18.5 C) and poured into the tank, the time noted and the reel gently agitated for two minutes and 15 seconds, the solution is then poured out, allowing 15 seconds for this operation. This make a total developing time of 2 1/2 minutes. The film is rinsed quickly and is ready for the bleach.

Bleach Solution

Water.....	1000 ml.	32 ounces
Potassium permanganate.....	3 grams	44 grains
Sulphuric acid.....	10 ml.	153 minims

(POUR THE ACID INTO THE WATER.)

This solution MUST be filtered through cotton before using in order to remove any permanaganate crystals that may not have dissolved, and

which would cause a bad spot on the film. The bleach can be made up in two solutions using half of the water for dissolving the permanaganate and half for diluting the acid. In this way they will keep for quite some time. The film is bleached for 4 minutes in this bath at 65° F of course, and washed for about 2 minutes. The bleach dissolves the silver negative image that was reduced by the development, and we now have the unused silver bromide left (which would ordinarily be removed with hypo when making a regular black and white negative.)

The next step is to remove the stain produced by the permanaganate and to also remove any of the silver sulphate left that may not have washed out.

Clearing Solution

Water.....	1000 ml.	32 ounces
Sodium bisulphite.....	26 grams	$\frac{3}{4}$ ounce 38 grains
(or potassium meta bisulphite.)		

The film should remain in this bath for EXACTLY 2 MINUTES, then wash for about 1 minute.

The film is now exposed to a strong light such as a 150 watt lamp for about 2 minutes or a photoflood lamp for about $\frac{1}{2}$ minute. The distance from the lamp to the film should be about two feet. If a tank is used it will be necessary to unwind the film, care being taken not to scratch the emulsion.

It is next rewound onto the spool and redeveloped in any good metol hydroquinone developer. My choice is D-73 dilute with four parts of water. This development should last for about five minutes.

Rinse the film in water and fix for ten minutes in the following fixing bath.

Water.....	1000 ml.	32 ounces
Hypo.....	240 grams	8 ounces
Sodium sulphite.....	30 grams	1 ounce
Acetic acid 28%.....	90 ml.	3 ounces
Alum.....	30 ml.	1 ounce

The film should be washed for 20 minutes in running water and wiped gently with wet cotton or a viscose sponge and hung up to dry.

In these few words I have tried to mention the points that seemed to cause most of the trouble experienced by those using Dufaycolor film and I trust that the readers will benefit by these remarks. Dufaycolor is a remarkable film and the beauty of nature can be captured with it. After all, experience is the best teacher, and I wish you success.

Cinema Section

Edited by

William A. Palmer

Better Light For Less Money

ARTIFICIAL lighting for amateur movies has been made very much easier and less costly in the last few years through the development of the photoflood bulb. Whereas a few years ago we had to pay about twenty-five dollars for a single reflector and stand and another three dollars for a bulb, we now purchase the equivalent in lighting equipment for five dollars with the bulbs selling at twenty-five cents! What more could anyone want—a couple of reflector and stand units, a few photoflood bulbs and the amateur movie studio is ready to go day or night.

Slightly blurring this ideal picture is the sad fact that a couple of lighting units are hardly adequate for large areas or Kodachrome filming and to increase the number of units, even at five dollars each, is a financial drain. Furthermore, when it comes to backlighting—that is a subject that one reads about but does not practice except at great peril to the nervous system and the living room chandeliers. The regular stands for lighting units just aren't made for back and top lighting and the average home has few places from which to support the overhead lights. If filming is done near a stairway, overhead lights can be poked over the banister. A step ladder can also serve as a high point upon which to affix a lighting unit. But what we need is a flexible inexpensive lighting arrangement which will furnish plenty of light for Kodachrome filming (8 to 10 photoflood bulbs) and make it a simple matter to place a top, side, or back light. It would also be desirable to be able to place as many as ten photoflood lamps on a set without such a confusion of wires, tripods, and stands, that one must move around as if wading in deep water.

In Hollywood the problem of light placement is taken care of by placing

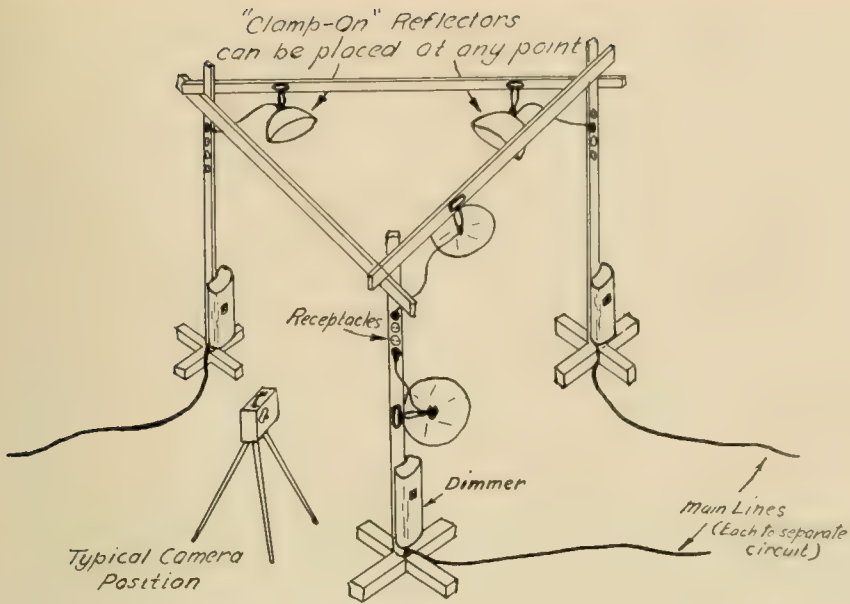


Figure 1

"cat walks" directly over the set so that electricians can place spot lamps or floods in any position. The front lighting is then taken care of by a few units placed on floor standards. In theatrical stage lighting a similar arrangement is used, there being placed a "cat walk" or more properly "light bridge" across the stage just behind the curtain line. Of course, in lighting for home movies, we can't build "catwalks" for men, but we can use the idea of the "light bridge" in fixing up a lighting system that will have all the flexibility of a Hollywood set and yield comparable results when properly used.

"The Light Bridge"

The basis or support of our "light bridge" would be three standards similar to those used for supporting the cross cars for high jumping or pole vaulting. These would be made of two inch square lumber cut a little less than ceiling height. They would be supported at their bases by crossed pieces of two by four fashioned like a Christmas tree stand. Or instead we could use old automobile steering wheels as the bases and make the uprights of pipe. At any rate we would fix the standards so that the bases would be removable for easy transportation.

Then we would have three wooden bars about one by two inches in cross section which could be lashed to the three standards to form an elevated triangle as shown in the figure. The whole combination of standards and cross bars would be placed so that two standards would be at either side and at the back of the playing area and the third standards out in front. You think that this would be a lot of bother just for taking a few movies? Actually such a

frame work can be set up in less time than four or five regular lighting standards and, furthermore, if it is to be moved to another location in the same room, three people in a few seconds can move the whole lighting installation. But to get back to the placing of lights on the "bridge".

The new "clamp-on" lighting units are just ideal for use on the "light bridge". These reflectors, with a rubber covered clamp like a huge clothespin, have a ball and socket joint so that they may be turned in any direction. They can be clamped quickly to any part of the "bridge" or the standards—across the back pole for backlighting, along the other poles for side and three quarter front lighting, and on the front standard for full front lighting. These "clamp-on" reflectors, made by several different companies are very inexpensive and we can purchase ten, complete with bulbs, for the price that a few years ago would buy but one stand and reflector! And ten photoflood lamps on one set is not only desirable for flexible lighting but a necessity for good Kodachrome.

Now to consider the wiring arrangements so that there is not the confusion of cords that can be so annoying. Perhaps the neatest system would be to supply each of the three standards with a row of four sockets supplied by a heavy cord of sufficient length to reach suitable floor plugs. The reflector units could then be plugged into any of the twelve receptacles on the "bridge". Down on the floor there would be only three cords, each plugged into a separate circuit so that there would be no danger of blowing fuses. The maximum load on any one circuit with all receptacles in use would be approximately 1000 watts.

"Many Lamps Make Low Voltage"

It is well to explain here why no more than four photoflood bulbs should be placed on any one circuit. The ordinary house wiring circuits are designed to supply about ten ampere of current (1000 watt load) but of course it is possible to put in twenty or thirty ampere fuses and put eight or twelve bulbs all on the same circuit. The wires in the house might get rather warm, but probably nothing very serious would happen to them. However, there would be a serious effect on the amount of photographic light which we would get out of the lamps. It is a curious characteristics of mazda lamps that if the voltage applied to them varies a little bit, the light emitted by them varies a great deal. Now when two or three times the proper number of lamps are placed on a circuit, even though the fuses do not blow out, the voltage drops quite a bit. Instead of the lamps getting 120 volts they will have perhaps 105. Although the voltage is decreased a little over 10% the photographic light efficiency is decreased over 50%. Thus one might just as well use half the number of bulbs at the proper voltage and save money.

One should also remember that the above phenomena of voltage drop in the house wiring applies also to extension cords. The average extension cord should not be used to feed more than two lamps, so our main lines to the "light bridge" should be heavier than a regular lamp cord. (No. 12 copper wire is suitable).

Some lighting units are equipped with a lamp saver or dimming switch so that the lights are not burning at full brilliance when a scene is being re-

heard preparatory to shooting. This device is merely a double throw switch that controls two photoflood bulbs, connecting them in series for the dim position and in parallel for full brilliance. With our new "light bridge" the flexibility would be hampered if we were to have to group the bulbs in pairs so that a dimming switch could be used, so if a lamp saving device is used, it must take a different form. Fortunately we can get just the thing for this service in a standard dimming rheostat for a 1000 watt theater flood lamp. These dimmers are rectangular in shape and made to fasten to an upright. They are operated by a sliding handle and will give a smooth variation of light intensity from full brilliance to total extinguishment. Three of them, one for each standard, will put the final touch to the "light bridge".

A New Punctuation Mark

ADDING to the already rather complete set of cinema punctuation marks which includes the fade, lap dissolve, iris, and wipe is a new type of effect which, though closely related to the wipe, might be more properly termed a "slide". It will be remembered that the wipe (or wipe-off) is an effect in which a line moves across the picture screen simultaneously erasing one scene and disclosing the next. The appearance of the "slide" is that one scene seems to fall off the screen but is no sooner out of sight than a new one falls down into place. The effect is accomplished in this manner:

It is necessary to use a camera equipped with a turret front although only one lens is used. The first of two scenes to be joined by a "slide" is photographed in the normal manner and at the very end of the scene the turret is turned so that the taking lens moves up away from the aperture. As soon as the lens is out of the way (Its image can no longer fall upon the film) the camera is stopped. The lens is then moved to a corresponding position below the aperture, the next scene made in readiness and as the camera starts the lens is turned up into the taking position. That's all there is to it—it's very simple yet very spectacular. When trying the stunt with the Filmo camera it will be found that when starting the second scene with the lens away from the taking position, the starting button will not depress because of the safety lock. To get around this, put the lens in taking position and depress the starting button slightly (not enough to start the mechanism) then turn the lens down below the aperture. The camera will start when the button is depressed all the way.



"Hark! A Lark!"

Fred G. Korth

Advanced Medal Print

■ We stand in awe at the amount of patience and ingenuity which Mr. Korth must have exercised to obtain this remarkably effective and original picture. It is difficult enough to obtain a really good pose with only one such nervous animal as a cat. To combine two so happily is an achievement of some magnitude. The alertness and nervous tension of the two animals is so strongly shown that the picture fairly vibrates with impending action.

We imagine that those who blindly follow academic rules of composition might object to the fact that the two cats are looking in different directions, on the grounds that this sets up competing directional movements within the picture. Ordinarily this might be so but observe the factors which argue against such an interpretation. The outlines of the two animals are intimately and cleverly tied together. Regardless of which direction the eye may take the outlines of the cat in the foreground lead the eye firmly to the face of the black cat. The dominating brilliance of the eye of the

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Second Award
Advanced Class

■ Mr. Kira offers a pleasant sleepy afternoon landscape, interestingly framed by the foreground foliage and the silhouetted branches of the tree. The bright sun-struck group of buildings in the middle distance establish a well placed center of interest, and aerial perspective is beautifully maintained. Observe how definitely the distant range of mountains stands back from the hillside in the middle distance. The eye moves easily through the picture space in a sort of lazy zigzag fashion. Moving in from the lower left along the line of foliage, it swings to the left to the group of buildings and on to the distant city. Then to the right impelled by the line of the hillside and the imaginatively seen valley beyond, and once again to the left along the clouds that build themselves up to the upper left corner. Notice how essential to the composition is the fact that the outline of the hillside in the middle distance is well maintained through aerial perspective. If this line were lost against the distant mountains there would be nothing to pull the eye back to the right when it had reached the city at the left edge of the print by traveling the course described above. As a consequence the eye would very likely slide out of the picture at this point and the composition would fall down. As things stand there is no danger of such an unfortunate occurrence. No data.



"Hollywoodland" Hiromu Kira



"Shirley" Romaine Studio

Third Award
Advanced Class

■ The delicate beauty of good high key work and the persuasive charm of the little subject combine to make this a most attractive picture. The placement of the head within the picture space and the modelling of the face leave nothing to be desired. We realize, of course, that it is common practice to make portraits with a very shallow depth of focus on the theory that this contributes to the dominance of the face in the picture. However we cannot see that such a practice is necessary to maintain the dominance of the face provided that the materials surrounding it are in keeping with the spirit of the picture and handled in good taste as they should be in any good work, and as they are in this case. Looking at this subject in the flesh the eye would not see the far edge of the bonnet out of focus, on the contrary it would appear quite sharp. To us at least such rapid falling off of definition is disturbing. We feel that the picture would be improved if the whole of

the bonnet were in sharp focus. Lack of space prevents our discussing technical considerations and their relations to equipment which this question brings up, but we will try to have these matters covered in an article in the near future.

Data: 8x10" Agfa Studio, 5x7" film; 18" B.&L. Unar; 1/3 sec. at F:4.5, on E. K. Portrait Pan., in A.B.C. Pyro; by spot-light and one unit of 6 photofloods in series; E. K. Opal L, in D-72.



"Action"

Arnold G. Harms

such but simply to the use made of it here. We feel that action in an outdoor sport such as this demands to be shown in sharp focus and in an atmosphere which is definitely outdoors. Visualize this shot against a blue sky fairly deep in tone, with good texture and definition throughout and you will see what we mean. Would it not be more effective? The present treatment removes the subject from its natural environment and injects an artificially suggestive of the studio.

Data: Taken in action with Graflex camera; 1/600 sec. at F:11; E.K. Portrait Pan.; paper negative; print on E.K. Opal L.

Fourth Award
Advanced Class

■ Mr. Harms has been quite successful in carrying out the idea expressed in his title, except in one respect which we will take up later. There is "Action" in this picture and it is action which is natural and typical of the sport as those who are familiar with it will agree. Further the particular action chosen lends itself to a pleasing arrangement of the parts within the picture space.

Our one disappointment lies in the treatment given the picture through the paper negative process. We are not objecting to the paper negative process as

Fifth Award

Advanced Class

■ Mr. Stoy has worked out a nice pyramidal composition with this group of stacks and ventilators, and the jet of steam from the whistle provides a well placed accent that lends the finishing touch to the picture. It is not particularly interesting or exciting as either subject matter or as a composition and it would seem that the material would need to be presented in a more dramatic form to be wholly successful. We need more of a feeling of height in the stack and this can be helped a little but not enough by trimming about an inch from the top of the 11x14 inch print. It is well to remember that a vertical object always appears taller when it reaches toward the top of the print. The line which runs from the lower left corner to the top center of the print is not a part of the picture and should be removed, with a reducer such as Etchadine or Farmers on the print. The small size of the negative makes pencil work on it almost impossible. This need only be done from the point where the line leaves the mast to the left of the shorter stack, up to the top of the print.

Data: 3x4 cm. Kodak Pupille; 1/100 sec. at F:8, with K-2 filter, late afternoon in September E.K. Panatomic in D-72; Agfa Brovira Antique in Amidol.



Werner Stoy



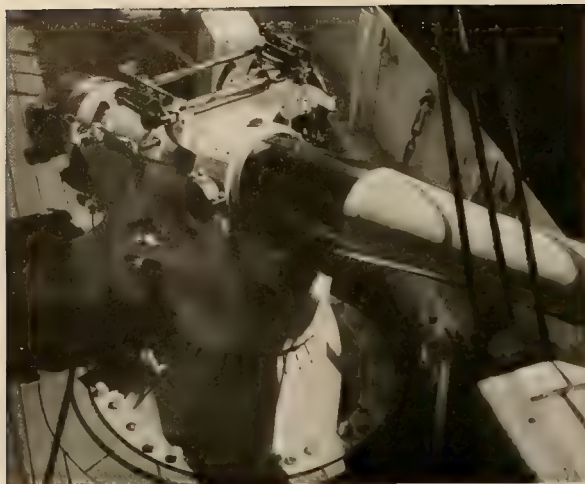
"Time Worn"

William Edwin Booth

Amateur Medal Print

■ Mr. Booth has found a most interesting model and it appears that his pose and treatment show a sympathetic understanding of his subject. Admittedly the hand work on print and paper negative is a trifle too evident, and it is regrettable that texture has been lost in the garment above and to the right of the hands. It seems however that the most fruitful point for discussion is the relation between the hands and face. This relation is most important to the picture for the gnarled and twisted hands speak almost as eloquently as the face and it is desirable to make the best possible use of them that is compatible with maintaining the necessary dominance of the face. As things stand we feel that these two elements are too nearly equal in strength. At the same time the pose and the general disposition of the parts of the picture are just about as we would like them and we do not wish to throw the hands into a lower key by cutting off the light at the time of taking the picture or by dodging-in during printing for we desire to retain detail, texture and brilliance there so far as this is in keeping with the principle of unity. This condition brings into clear relief the importance of the background in controlling the strength of any given part of a picture, for

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**"For Ethiopia?"****Robert Desme**

drastically subdued for it plays no essential part in the composition. The title, of course, has a certain significance at the moment but seems to us to be rather far fetched and concerned more with political implications that are not truly expressed in the picture itself. In general it is better to take one's title more directly from the explicit implications of the picture.

Data: Leica; E.K. Panatomic in MPG (apparently a Metol, P-Diamine, Glycin combination); E.K. Vitava Opal H, in M.Q.

Third Award**Amateur Class**

■ Mr. Barrett has selected just the angle of light that presents this subject at its maximum effectiveness, with the spikes standing out as bright pin points of light. The observer will notice that the outlines of the two pads radiate from a point on the bottom edge of the print. This appears to be a precarious arrangement for it gives the impression that the large pad is balanced on the edge of the print. Adding space at the bottom would correct the disadvantage of having the point of radiation at the edge of the print but, if there is nothing to add mass below, would probably make the large pad look unsupported and in danger of toppling over. Consequently it seems best to trim about one half inch from the base of the 8x10" print. This not only takes care of the matter of radiation from the exact edge of the print but gives a broader base to the large pad, which does no harm by contributing to the stability of the composition. The two pads in the background at the left edge of the print are not properly part of the picture but they are not sufficiently strong to bother us to any great extent. In order to trim them away we must reduce the size of the smaller pad in the foreground to an extent that destroys its relation to the larger pad and for that reason such trimming is not recommended.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Speed Graphic $6\frac{1}{2}$ " Bausch & Lomb Tessar; 2 secs. at F:45 on E.K. Portrait Pan.; developed 5 mins. in D-72; bright day 3 P.M. in June; E.K. Opal P in Vitava developer.

**"Cacti in Sunlight"****Nestor Barrett**

Fourth Award

Amateur Class

■ For the most part "An Iris" is technically very fine, and the arrangement of the flower leaves little to be desired, although the bit of leaf which appears at the top of the print hardly conforms to the rest of the composition for it apparently pops out of nowhere. The main weaknesses of the picture as we see it are primarily matters of lighting. First, there is a weak area in the lower left where the blossom is lost against the background. Second, the lighting on the main part of the blossom definitely comes from two opposite directions, that is to say from either side. This results in the placing of highlights at the two outer edges, while the heart of the blossom, where the strongest illumination should be directed is comparatively neglected.

Data: 4x5 Agfa View; 8½" Turner Reich; 15 secs. at F:64, with two 60 W lights; DuPont Superior Pan., in Glycin; Defender Velour Black DL, in Amidol.



"An Iris"

Eldredge Looney

Fifth Award

Amateur Class



"Eucalyptus"

F. M. Beckett

■ This is really a very charming landscape with good aerial perspective and a nicely managed accent in the brilliant tree trunks. Also the eye is easily carried into the distance by the sunlit area beyond the turn in the road. In commenting on pictures we greatly dislike to resort to the familiar phrase "It's a nice thing but it has been done to death", yet some such remark seems called for here although it might have been applied to numerous other pictures which have appeared in these pages with equal or greater justice. The subject calls for discussion however so here goes.

We dislike to use the phrase or its variations for three reasons. First, because the amateur photographer in his early years must and should make such pictures because their production is an essential part of his training. His more ambitious and daringly original projects must await artistic maturity. Second, because there is little that is constructive in such comment and because some are inclined to resent the remark feeling that it implies that the picture is not as original with them as it should be. Such comment does not mean that the conception and execution is not wholly the photographers own. It simply means that the theme has been over-worked and that the picture in question brings nothing fresh to that theme. Third, there is a general tendency to consider such comment unfair. The photographer takes the position that if a thing is good it is good and that is all there is to it. Surely we can understand an individuals disappointment when it seems

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Monthly Competition

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class: Arnold G. Harms and Fred G. Korth, for the Fort Dearborn Camera Club; Werner Stoy, for the Los Angeles Camera Club. The following won points for their clubs in the Amateur Class: William Edwin Booth, for the Camera Club of Richmond; Nestor Barrett and F. M. Beckett, for the San Jose Camera Club.

Contributing Clubs

Bakersfield (Calif.) Camera Club	Los Angeles Camera Club
Boulder Lens Club (Colo.)	Miniature Camera Club of New York
California Camera Club	Miniature Camera Club of Oakland
Camera Club of Richmond (Va.)	(Calif.)
East Bay Camera Club (Oakland, Calif.)	Monterey Peninsula Camera Club
Fort Dearborn Camera Club	(Calif.)
Golden Gate Miniature Camera Club	Palo Alto Camera Club (Calif.)
(San Francisco, Calif.)	Photographic Society of San Francisco
Hamilton (Canada) Camera Club	Pictorial Photographers of America
Japanese Camera Club (San Francisco, Calif.)	San Jose Camera Club (Calif.)
Lens & Shutter Club (Cleveland, Ohio)	St. Joseph Camera Club

Standing of Clubs

Large Clubs Advanced Class		Large Clubs Amateur Class	
Los Angeles Camera Club	31	Photographic Society of San Francisco	36
Fort Dearborn Camera Club	25	Golden Gate Miniature Camera Club	13
Camera Club of Ottawa	19	Schenectady Photographic Society	10
Pictorial Photographers of America	14	California Camera Club	8
Photographic Society of San Francisco	12	Miniature Camera Club of New York....	5
Montreal Camera Club	10	Los Angeles Camera Club	3
Miniature Camera Club of New York....	7	Camera Club of Ottawa	1
Telephone Camera Club of Manhattan..	3		
American Society of Cinematographers	1		
Toronto Camera Club	1		
Small Clubs Advanced Class		Small Clubs Amateur Class	
Erie Camera Club	5	Hamilton Camera Club	11
Monterey Peninsula Camera Club	4	Washington Pictorialists	11
Baltimore Camera Club	2	San Jose Camera Club	8
Camera Art Circle	2	Camera Club of Richmond	5
Japanese Camera Club	2	Cleveland Central Y.M.C.A. Camera Club	3
East Bay Camera Club	1	Whittier Camera Club	3
		Monterey Peninsula Camera Club	2

(Continued from Page 502)

black cat definitely subordinate the face of the other cat which is further subdued by being shown in profile. Consequently the composition appears to be sound and justified. The brilliance of the ear of the cat in the foreground contrasted as it is with the blackness behind, constitutes a minor defect by introducing a spot that is not essential to the picture, and that tends to detract from the dominance of the eyes of the black cat. This could easily be corrected by printing this ear in to a slightly darker tone.

Data: 24 cm. Schneider Xenar; indoors by one Photoflash, at F:8; S.S. Pan. film; print on Agfa Brovira glossy.

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it is not only the tones of a given part itself which determine its prominence but also the degree of contrast between that part and its background. Observe therefore that the point of maximum contrast in this picture is not between the face and its background as is desirable but between the hands and their background. This gives additional strength to the hands and weakens the face in relation to them. If the tones of the background were reversed with respect to these two parts no other adjustment would be necessary to obtain the desired relationship between face and hands.

Data: 9x12 cm. Nagel; 5¼" Meyer Convertible lens; 1/10 sec. at F:4.5, no filter in shadow of porch on bright day; Agfa Isopan in DK-76; paper negative on Agfa Velvet Brovira medium, single weight in D-72; print on Agfa Indiatone Fabric Rough White, in D-72.

Advanced Competitors

Miss Edna R. Bennett, Hollywood, Calif.
 Evelyn Curtis, Oakland, Calif.
 M. K. Curtis, Oakland, Calif.
 John A. Duncan, St. Joseph, Mo.
 James Emmett, Hinsdale, Ill.
 Edward Entin, Brooklyn, N.Y.
 Beauford B. Fisher, Pacific Grove, Calif.
 C. N. Fuller, Los Angeles, Calif.
 *Arnold G. Harms, Chicago, Ill.
 Lionel Heymann, Chicago, Ill.
 Grace R. Hutton, Chicago, Ill.
 V. E. Johnson, Chicago, Ill.
 Stanley R. Jordan, San Francisco, Calif.

Sorab J. Kharegat, Bombay, India.
 *Hiromu Kira, Los Angeles, Calif.
 Kiehi Kojimoto, San Francisco, Calif.
 *Fred G. Korth, Chicago, Ill.
 Paul W. Macfarlane, Pomona, Calif.
 Joseph Margraff, Chicago, Ill.
 Paula K. Morse, New York, N.Y.
 *Romaine Studio, San Francisco, Calif.
 R. Owen Shrader, Pasadena, Calif.
 *Werner Stoy, Los Angeles, Calif.
 K. Wakasa, San Francisco, Calif.
 R. L. Wakefield, Los Angeles, Calif.
 *Denotes Prize Winners

Amateur Competitors

J. G. Adams, Abilene, Texas
 A. W. Ambler, New York, N.Y.
 Gustav Anderson, Amityville, N.Y.
 Dr. Herbert Antoine, San Francisco, Calif.
 Frederick S. Baker, Fairhaven, Mass.
 A. M. Barrach, Hamilton, Canada
 *Nestor Barrett, San Jose, Calif.
 *F. M. Beckett, San Jose, Calif.
 Dale Martin Bender, Milwaukee, Wisc.
 Glenn Berkey, Rittman, Ohio
 *Wm. Edwin Booth, Richmond, Va.
 J. Owen Campbell, Norfolk, Va.
 Edwin Camy, San Francisco, Calif.
 R. B. Collier, San Francisco, Calif.
 Clifton Cowee, Springfield, Mass.
 Al W. Cross, Palo Alto, Calif.
 *Robert Desme, Brooklyn, N.Y.
 A. Filipelli, Totowa, N.J.
 John Fowsky, Bronx, N.Y.
 Mortimer Friedman, New York, N.Y.
 William R. Frutchey, St. Albans, N.Y.
 J. T. Fujisada, San Francisco, Calif.
 E. L. Gockeler, Saranac Lake, N.Y.
 Maurice Greiner, Santa Paula, Calif.
 Rogert A. Hart, Newberg, Ore.
 D. Hashimoto, San Francisco, Calif.
 Dudley Haskell, San Francisco, Calif.
 Delbert E. Jack, Berkeley, Calif.
 L. S. James, Boulder, Colo.

Robert Janssen, New York, N.Y.
 C. Stanton Loeber, San Francisco, Calif.
 Arthur Lomax, Hamilton, Canada
 *Eldredge Looney, Omaha, Nebr.
 Robert B. Mercure, Palo Alto, Calif.
 E. H. Morrison, Fort Scott, Kansas
 Donald B. Myers, New York, N.Y.
 Don Kirby Oliver, San Francisco, Calif.
 Harry E. Perl, Oakland, Calif.
 Frank X. Reilly, Pottsville, Pa.
 F. L. Rogers, San Francisco, Calif.
 E. Ashford Sampson, San Francisco, Calif.
 J. N. Schuler, Akron, Ohio.
 George Semonsen, San Francisco, Calif.
 H. E. Sheffield, Cleveland, Ohio
 John J. Shortridge, San Francisco, Calif.
 Alex R. Silverberg, Cleveland, Ohio
 W. Wayne Smith, Grand Rapids, Mich.
 Burton Stuart, Palo Alto, Calif.
 Henry K. Tanaka, San Francisco, Calif.
 Paul D. Towner, Prospect Park, Pa.
 Margaret Walker, Mills College, Calif.
 Paul W. Wall, Chicago, Ill.
 Calvin R. Williams, Bakersfield, Calif.
 Dr. Carl G. Wilson, Palo Alto, Calif.
 Lloyd H. Younger, Oakland, Calif.
 Augusta Zachary, San Francisco, Calif.

*Denotes Prize Winners

(Continued from Page 507)

to him that his hard work is undone by such a seemingly irrelevant matter as the date of his birth. We should not fail to point out that on occasion the above attitude is correct. The truly superb picture will be acclaimed regardless of the theme, but it is also true that such pictures are rare and have a uniqueness that makes the application of our phrase inappropriate.

We come then to the question as to whether such criticism is justified. In supporting the affirmative we call the readers attention to the story of the little lamb who conceived the brilliant idea of throwing his brothers and sisters into a panic by suddenly shouting Wolf!, Wolf!. Unfortunately he played this prank once too often so it happened that the actual arrival of the Wolf resulted in an unhappy ending which we will leave to your recollection. Our point, of course is that repetition does dull appreciation, and there is no way to avoid it. Since this is true the criticism we are discussing is honest and justified for any individual or group if that is his or their reaction. We should also remember that juries must necessarily be made up of people who have seen a lot of photographs—but that is another argument.

Most of this comment is largely digression and applies to this picture only in limited measure. We ask Mr. Beckett's pardon for using up his space in this fashion.

Data: 5x7" Seneca View; Zeiss Tessar; 1/5 sec. at F:22, at 4 P.M. in Feb.; E.K. Portrait Pan., in Pyro-Metol (tray); enlarged through Verito lens on Agfa Indiatone Porcelain Stipple White. Print worked up in oil wipe-out process.

Club Notes

Forthcoming Exhibitions

■ **Fourth Annual Minneapolis Salon of Photography.** Address R. W. Burnet, Chairman Salon Committee, Minneapolis Camera Club, 2601 Euclid Place, Minneapolis, Minnesota. Closing date November 12th, 1935. Entry fee \$1.00. December 1st to 31st, 1935.

■ **Seventh Annual International Western Salon of Photography** to be held at Clifton Arts Gallery, Bristol. Address Organizing Secretary, Western International Photographic Salon, 24 Church Road, Redfield, Bristol 5, England. Closing date October 28, 1935. November 23 to 30, 1935.

■ **The Metropolitan Salon of Photography.** Sponsored by The Oval Table. Address Mr. Walter Dreicer, 48 West 48th St., New York, N.Y. Closing date November 2, 1935. Entry fee \$1.00, limit four prints. Prints must be mounted. Limited to persons residing within fifty miles of New York City. Dec. 3 to 15, 1935.

■ **Cape of Good Hope International Salon of Photography.** Under the auspices of The Cape Town Photographic Society. Address Hon. Salon Secretary, Richard Dekenah, Esq., P.O. Box 2431, Cape Town, South Africa. Closing date November 19, 1935. Entry fee five shillings, limit 4 prints. January 1936.

■ **Leicester Photographic Society International Exchange.** Address Exhibition Secretary, H. Foscutt, 19 Doncaster Road, Leicester, England. Closing date January 24, 1936. February 24 to March 7, 1936.

■ **Fifteenth International Salon organized by the Belgian Association of Photography and Cinematography.** Address Secretary of the XVth Salon of Belgian Association of Photography and Cinematography. M. Maurice Broquet, 77 rue du Sceptre, Brussels, Belgium. Closing date March 15, 1936. Entry fee 6 belgas, limit four prints. May to October 1936.

■ **9th International Christmas Salon of Photography.** Address Mr. E. Borrenbergen, Dambruggestr. 265, Antwerp, Belgium. Closing date November 15th, 1935. Entry fee 5 Belga. Limit four prints. May be sent unmounted. December 22, 1935, to January 5, 1936.

■ **Third (Second International) Wilmington Salon of Photography.** Sponsored by the Delaware Camera Club. Address E. W. Sautter, P.O. Box 818, Wilmington, Delaware. Closing date December 15, 1935. Entry fee \$1.00. Limit four prints, foreign prints must not be mounted. January 6th to 26th, 1936.

■ **The Seventh International Salon of Photographic Art at Brussels.** Address M. M. Devaivre, 152 rue Markelbach, Brussels, Belgium. Closing date February 25th, 1936. Entry fee 7 Belgas. March 21st to April 5th, 1936.

Los Angeles Camera Club

The Los Angeles Camera Club meets every Thursday evening, in their own home, at 2504 West 7th Street, Los Angeles, California. The results of the yearly election of officers is as follows: R. Owen Shrader, Re-Elected President; George H. Phillips, Vice-President; Miss Edna R. Bennett, Secretary; Hugo Tafel, Jr., Re-Elected Treasurer. Eight Committee Chairmen have been appointed, who are busy working out interesting programs for the coming season.

The L.A.C.C. School of Photography, under the able direction of James S. Lawshe, will once more hold sessions for the enthusiastic beginner in the realm of picture making. The course consists of twelve weekly meetings, with number one scheduled for the first Monday in October.

Notes From Ft. Dearborn Camera Club

Fort Dearborn Camera Club, which during the summer suspended its regular weekly meetings, started off its fall and winter schedule with a rousing meeting on the night of August 30th.

A brief service in remembrance of the late Oscar Reiter was conducted by Dr. Max Thorek, a lifelong friend of the deceased. The doctor eulogized him as a kindly unassuming man, loving and beloved by everyone, a patron of all things artistic, and a generous friend of Fort Dearborn.

This being the last Friday of the month, was print criticism night, with Dr. Max Thorek wielding the tongue. Some fifty real and alleged pictures were offered for criticism, analyzed with surgical dexterity and dental painlessness, praised, damned, dissected and dismissed. Another dozen submitted for the special subject "Summer" were discussed by Morris Gurrie, disguised as a print critic.

Grace Hutton, faithful and pulchritudinous secretary of the club, smiled artlessly at the critics and was awarded the prize of the month. Her print will be exhibited for the current month in the lobby of the building. Meeting Place, 111 East Pearson Street, Room 317. Regular Meetings, 8:15 Every Friday Night. Print Criticism the last Friday of each month.

Miniature Camera Club of Chicago

The Miniature Camera Club of Chicago announces the completion and opening of its new and permanent quarters at 2045 Lincoln Park West. Originally organized some three years ago as the Leica Club of Chicago, meetings were formerly conducted and quarters maintained at the Stevens Hotel.

The new quarters will include, in addition to a large assembly and exhibition room, developing, printing, and enlarging rooms complete with the latest and most modern equipment.

Studio lights and other accessories for portrait photography are also being installed.

The club now consists of some eighty-odd members. With the club now occupying new and permanent quarters, rapid growth of membership is anticipated.

Officers recently elected are: Frederick K. Lawrence, President; F. M. Moore, Vice-President; Leonard Elsmann, Secretary; North Storms, Treasurer; Kenneth

Heilbron, Chairman Print and Program Committee.

It is expected that beginning about October 1st the club will hold regular weekly meetings, featuring demonstrations, print criticisms, and other special programs.

A cordial invitation is extended by the club to all interested in miniature photography.

Amateur Photographers!!! Take Notice!!!

We are pleased to announce the formation of an amateur "Camera Club." The organizers have now opened membership to the amateur cameraman and the novice; average age ranging from about 20 to 25 years of age.

The purpose of the organizers of this group is to bring together the amateur cameramen for the furtherance of activity in the field of amateur photography. Among other things, the organizers plan to have lectures and discussions embracing every field of photography from the actual operation of the camera, through to the finished print. These plans, however, are to be merely suggestions to the group when it is ready to start work.

As in any other newly formed organization, there will be obstacles and drawbacks. Hence, being no exception, the organizers are, for the time being, inviting only those who reside in the Bronx, New York City, for membership.

All who are interested are requested to write to the organization secretary, Joseph Liss, 1411 Clinton Avenue, Bronx, New York.

W. Dovel LeSage Award for Still Life

Mr. W. Dovel LeSage is offering through the Royal Photographic Society of London, an annual award of ten pounds, approximately \$50.00, for the best Pictorial Still Life photograph. This award will be made each year at the time of the Society's annual exhibition, and the winning print will be reproduced in the Year's Photography, annual special number of the Photographic Journal. Entry blanks for this special award were and will be sent out with the entry blanks for the Society's annual Salon. The award this year went to

Mr. Foster Brighan, Jr. of Middlesbrough, for his print "Window Dressing." The judges were Robert Chalmers, F.R.P.S., and Paul Shillabeer, F.R.P.S. Mr. LeSage informs us that he is offering this award because of his conviction that the practice of Still Life photography is not only worth while in itself but also because he believes that such work affords excellent training for the growing photographer—an attitude in which we heartily concur. Through lack of time the award was not sufficiently publicized in this country this year, but it is to be hoped that next year will find a large American entry competing for the award.

Camera Guild of Cleveland

The above named club, the organization of which was announced in our last issue, has now taken up permanent quarters in the Shirley Bldg., 4618 Euclid Ave., Cleveland, Ohio. All correspondence should be sent to that address. The club further announces that it has now almost attained its objective of sixty members. Good work!

New Club

A new club has just been formed in Chicago, to be known as The Loop Camera Club, Mr. Albert Gelbard, president. Amateur photographers are invited to membership and should get in touch with Mr. Gelbard at the Jackson Wells Garage, Chicago, Ill.

The Miniature Camera Club of New York, Inc.

On the evening of August 14th, Mr. O. Barth of Carl Zeiss, Inc., described the essential differentiating features of the various miniature cameras manufactured by that company. A good part of the evening was spent in a discussion of the forthcoming improvements in their most popular miniature camera, the Contax.

The heavens were kind on the 17th of August in providing a sparkling, colorful day for a sail on the Sound. Nor were those fortunate enough to be of the party slow to avail themselves of the many opportunities offered. Shutters clicked continuously as sail and power boats, sky and water mingled in pictorial confusion

(or is it composition?) in the viewfinder. Nor were the candid shots of fellow "snappers" to be disregarded.

The technique of properly compounding the various solutions used in development and printing was thoroughly discussed by Mr. Fenwick G. Small, chairman, at the meeting of the Technical Group on August 21st. Mr. Small pointed out the properties of the chemicals used and the proper care and handling of each, and described the results brought about by neglect and carelessness in giving due consideration to these.

Oscar C. Reiter

The death of Oscar C. Reiter, at the age of 74, marks the passing of a truly historical figure in the progress and development of American amateur photography. Mr. Reiter began his photographic work in 1895, and in 1900 was one of the leaders in the formation of the Photographic Section of the Academy of Science and Art of Pittsburgh, and in later years he was largely responsible for consolidating and bringing to prominence the Pittsburgh Salon, which is generally considered to be the outstanding American Exhibition. He assisted in formulating the Print Interchange of America in 1907, which organization lasted about six years. He played a large part in bringing into being the Associated Camera Clubs, now the Photographic Society of America, and is the only man to be elected an Honorary member of that organization. These brief highlights from a long career truly show a life devoted to unselfishly furthering the cause of the Art he so deeply loved. Mr. Reiter died on August 18th, in Pittsburgh, after a serious operation. His host of friends in and out of photography will miss him with a sincerity which words cannot convey.

Camera Craft Traveling Salons

The Camera Craft Traveling Salons are currently on exhibition as follows:

Group I

Raytar Camera Club, Rochester, N. Y., Sept. 20 to 30.

Camera Club of Syracuse Y. M. C. A., Syracuse, N. Y., October 3 to 13th.

Group II

Raritan Photographic Society, New Brunswick, N. J., Sept. 22 to Oct. 1.

Camera Club of Ottawa, Ottawa, Canada, Oct. 6 to 16.

Toronto Camera Club, Toronto, Canada, Oct. 21 to Nov. 4.

Group III

Brooklyn Institute of Arts & Sciences, Brooklyn, N. Y., Oct. 1 to 15.

Boston Y.M.C.U. Camera Club, Boston Mass., Oct. 18 to 28.

South Shore, Camera Club, Quincy, Mass., Nov. 1 to 10.

Group IV

Oklahoma Camera Club, Oklahoma City, Okla., Sept. 23 to Oct. 2.

El Paso Camera Club, El Paso, Texas, Oct. 7 to 18.

Austin Camera Club, Austin, Texas, Oct. 22 to 28.

Group V

Cleveland Photographic Society, Cleveland, Ohio, Sept. 24 to Oct. 7.

Cleveland Central Y. M. C. A. Camera Club, Cleveland, Ohio, Oct. 9 to 18.

Portage Camera Club, Akron, Ohio, Oct. 21 to Nov. 3.

Notes and Comments

Zeiss Offers New Fast-Lens, Auto-Focus Camera

A new Super Ikomat B with a Tessar F/2.8, 8cm. focal length, is now available, according to recent announcement by Carl Zeiss, Inc. This latest instrument is the seventh auto-focusing camera offered by this well-known firm since its introduction of the popular candid Contax. Finished handsomely, with smart chrome-trim, this new model differs somewhat in appearance from the previous Ikomat pattern. It resembles more the Super Nettel. The Super B offers, in addition to its fast F/2.8 Tessar lens, a rapid Compur up to 1/400 second, and incorporates an ingenious trip lock that prevents shutter action until the film has been advanced, thus eliminating double exposures. Eleven $2\frac{1}{4} \times 3\frac{1}{4}$ pictures are obtained on $2\frac{1}{4} \times 3\frac{1}{4}$ roll film. Coincident with this announcement, Zeiss advises that its popular Super Ikomat C and Ikomat C ($2\frac{1}{4} \times 3\frac{1}{4}$) are now available with a Tessar F/3.8 and Compur to 1/400. The handy little Ikomat A and its Super Ikomat A sister have for some time been supplied with a shutter running to 1/500.

New Willoughby Items

The wonderful absorbent and lintless qualities of the Viscose Sponge has made it instantly popular for a wide variety of photographic uses. In response to an in-

sistent demand Willoughby's, 110 W. 32nd St., New York, N. Y. now offer this sponge in two larger sizes. Size No. 3 is $5\frac{1}{4} \times 3\frac{1}{2} \times 1\frac{1}{4}$ " dry, size No. 4 is $6\frac{1}{4} \times 4 \times 2$ ", dry. The two new sizes have an absorption of 12 and 18 ounces respectively. A descriptive circular will be supplied on request.

Willoughby's also offer four systems for the filing of miniature negatives, contact prints or color transparencies. They have prepared a most instructive folder which describes and illustrates these four systems in full detail. Ask for it today.

New George Murphy Catalogue

The new sundries catalogue No. 135, published by George Murphy, Inc., 57 East 9th St., New York, N. Y., is now available. This is no doubt the most complete listing of photographic equipment both foreign and domestic to be had. It is said that various departments of the Government use this catalogue as representative of the materials used in the photographic industry. A special section is devoted to materials for the various natural color processes. The catalogue may be had by sending 25 cents to the above address, which remittance will be refunded with the first purchase amounting to \$1.00 or more.

Verebest Chemicals

VereBest Photographic Chemicals, known

throughout the world, for their exceptionally high quality and the precision of their performance, were manufactured, only several years ago, under conditions that were perhaps a bit trying to Mr. H. O. Bodine, the founder of the Photo Crafts Laboratory.

Starting with limited capital and with the plausible and prudent idea that overhead expense was a good thing to eliminate in the early stages of business, the manufacture of VereBest Chemicals was achieved in a room in Mr. Bodine's residence in Wantagh, L. I. But the old saying that the world treads a beaten pathway to your door if you make a better mouse-trap than your neighbor held good in this instance. Ingeniously calculated, skillfully compounded, attractively bottled and reasonably priced, VereBest Chemicals soon achieved a definite place in the minds of the photographically inclined.

The single room became two and yielded, after a while, to a conveniently situated and roomy structure of wood which recently gave way to a concrete, fire-proof building, situated in Sunrise Park in Wantagh, 45 minutes from Broadway, New York City. Achievements of this kind make one feel that depressions are but a state of mind, for given the ability to work and plan, industries of importance are being established every day from humble inceptions in basement or attic.

For full information and an interesting catalogue of VereBest products write to Photo Crafts Laboratory, Wantagh, L. I., New York, in the East or to T. H. Wilton Co., 717 Market St., San Francisco, Calif., in the West.

Multi Speed Exakta

The Ihagee Camera Works, 939 Striesen, Dresden, Saxony, is an organization with many years experience in the construction of instruments of precision. The fruits of this experience may be seen in the Ihagee Exakta camera which combines the advantages of a reflex camera and a miniature camera of high precision. The camera is simple in its operation and permits of exact control and focusing of the picture in the focusing hood by means of a magnifier fitted for critical focusing. Double ex-

posure is impossible as the self capping focal plane shutter, with speeds from 1/1000th to 6 seconds, is automatically set when the film is wound. Lenses are readily interchangeable for telephoto or wide angle photography. See this fine camera at your dealers, or write to the above address for literature.

Teitel Methods

If one could possibly conceive of a condition in which neither the past nor the future existed, one would, no doubt, approximate the mental state of an animal who possesses neither memory nor hope. The whole science of photography is based on this exclusively human ability to review the past and to delve into the future. A fleeting, momentary instant of time before it merges into the future becomes a tangible, definite memory—and reenforces our recollections of people and places. And to us, being constituted as we are, these memories are important.

The realization of this fact prompted Mr. Albert Teitel, a chemist of reputation, to engage in a lengthy and exhaustive series of experiments, whose purpose was to formulate solutions that would prevent film deterioration.

These experiments reached their successful consummation a number of years ago in the processes known as Teitel's New Life Method and Teitel's Scratch Proof Method and have been used since then in the efficacious treatment of amateur and professional Motion Picture Film.

The Teitel New Life Method was used for the rejuvenation of dry, brittle, old film. It rendered film sufficiently moist to insure pliability—kept it flexible and lubricated throughout its entire surface and in addition, removed all extraneous substances, cleaned it, provided it with a greater clarity of image, prolonged its life and prevented it from buckling and curling.

The Teitel Scratch Proof Method, a complimentary but contrasting process was used exclusively for the treatment of new film. It hardened the emulsion without affecting the cellulose base of the film, rendering it immune to scratches and abrasions from ordinary use.

Although primarily intended for the treatment of motion picture film, the new interest in photographic methods aroused by the advent of miniature cameras of the Leica and Contax type, the perforated 35mm. film used in these cameras and the necessity for keeping these long film strips in good condition, evoked a vast number of inquiries from careful photographers who in constantly augmenting number requested information on safe methods for preserving their films.

As a consequence, the firm of Kin-O-Lux, Inc., the owners of New Life and Scratch Proof Methods decided to manufacture these preparations in concentrated solution form which could be applied by the miniature camera man or amateur movie maker to his own film. The briefest announcement to the effect that these solutions were being prepared in the above manner, resulted in an immediate demand for these preparations from readers from the most far-flung reaches of the world . . . demonstrating the intense interest in processes that will effectively preserve film memories.

These solutions are manufactured by the firm of Kin-O-Lux, Inc., 105 West 40th Street, New York, who will be happy to send interested readers further information on request. Western agents, Western Movie Supply, Inc., 254 Sutter St., San Francisco, Calif.

Photographs Wanted

The Rose Co., 24th and Bainbridge Sts., Philadelphia, Pa., is advertising in this issue their desire to purchase photographs suitable for reproduction on greeting cards. Prints should be 8 x 10" glossies, and postage must be sent for return. Minimum price paid will be \$5.00, and a \$5.00 prize will be paid for the best picture submitted. The competition is open until October 20, 1935.

Kalart Photoflash Synchronizer for Rolleiflex

Burleigh Brooks, American distributor of the Rolleiflex and Rolleicord cameras, has now produced an Adapter which makes possible the use of Kalart Photoflash Synchronizer with either of these cameras

with a minimum of difficulty. The battery case, lamp holder and reflector of the synchronizer fastens to the tripod screw bush in the camera base. The special adapter fitting attaches easily to the front panel of the cameras by two small screws already on the cameras. Thus the attachment can be easily attached to the camera with a small screw driver and when removed leaves no trace or damage. The synchronized exposure is made simply by pressing the regular cable release. With this attachment the operator can make instantaneous photoflash exposures at all shutter speeds and be sure that flash and shutter operate together. Descriptive circulars may be had either from The Kalart Company, 58 Warren St., New York, N. Y., or from Burleigh Brooks, 127 West 42nd St., New York, N. Y.

Columbia Photo Supply

Those who are looking for real bargains in used camera equipment are advised to take note of the advertisement of Columbia Photo Supply elsewhere in this issue. If the item you want is not listed there drop a line to the firm at 146 Columbus Ave., New York, N. Y., letting them know of your needs. It should also be known that this firm specializes in Fine Grain Processing and like services for the miniature camera user.

Leather Cases for Weston Meters

Strongly constructed and attractively finished leather cases for Weston 650 Universal, and Leicameters, at \$1.75, and for Weston 617 type 2 for \$1.45, may be obtained from J. L. Hammar, Summit, N.J.

Snapshots at Night Contest

The General Electric Company is sponsoring a mammoth "Snapshots At Night" contest for pictures taken by either G-E Photoflood or Photoflash lamps. \$2,500.00 in cash prizes will be awarded and a single picture may win as much as \$350.00. There will be 89 awards made each month for October, November, and December. These will be allocated as follows: 2, \$100.00 awards; 3, \$50.00 awards; 4, \$25.00 awards; 10, \$10.00 awards; 20, \$5.00 awards; and 50, \$2.00 awards. In addition to these the six prints receiving the \$100.00 awards

will be eligible for a grand prize of \$250.00. There are no restrictions as to subject matter. Rules and entry blanks may be obtained from your dealer or from General Electric Co., Nela Park, Cleveland, Ohio.

The New Beira Miniature Camera

A new addition to the list of miniature cameras using 35 mm. film is the Beira. Important feature of the new camera is a unique device to insure needle-sharp focusing. A prismatic telescope is mounted on the camera and is synchronized with the camera's taking lens. This device shows a section of the field clearly and luminously enlarged to six diameters, so that the most accurate focusing becomes a simple matter. See this new camera at your dealers, or write to the C. P. Goerz American Optical Co., 317c East 34th St., New York, N.Y., for descriptive literature. While doing so ask about the new Rafix Roll Film Camera as well.

Step Wedge

Too few photographers realize the advantages of being able to accurately determine either the scale of a negative or the scale of a printing paper, so that the two may be brought into conformity with each other. We now learn that the Philip Conklin Studio, Troy, New York, is prepared to furnish an accurate 10 step wedge for only \$1.50. Full instructions for use accompany each wedge. The November 1933 issue of this magazine carried an article describing in detail the many advantages of using such a device in printing.

Exposure Information

Photo Utilities, Inc., has performed a public service of no mean importance in compiling their recent publication "A Reference Book for Photographic Exposure." Aside from containing the most complete list of film speeds in Scheiner degrees which we have yet seen this little book contains a truly surprising amount of sound and very helpful information on the use of exposure meters, and exposure problems in general. Each of the principal systems of speed rating are discussed and explained, and a table giving a comparison of speed ratings in the Scheiner, Din, Weston, H. & D. systems compared with a

relative exposure factor is given. A measure of how religiously the firm has adhered to giving information and refrained from advertising is evident in the fact that although they are the American distributors of the Photoscop, that meter is not even mentioned in the booklet. It may be obtained by sending \$.25 to Photo Utilities, Inc., 152 West 42nd St., New York, N. Y.

Normand Photo Service

The above name designates a new camera supply shop and finishing service recently opened at 2222 Telegraph Ave., Berkeley, Calif. The processing plant is blessed with the very latest in modern equipment, both for miniature and larger size film, and so is prepared to turn out high quality work. Mr. Normand informs us that he desires to cater primarily to the advanced amateur, and to that end has installed a complete library of up-to-date books that are at the disposal of his patrons. Complete lines of Zeiss, Voigtlander, and Eastman cameras and equipment may be seen. Visit the new store and get acquainted.

Bland H. Casebolt

We learn with much pleasure that Bland H. Casebolt, a prominent contributor to this magazine, who incidentally has an article in this issue, has accepted the position of manager of the Photographic Dept. of the Potter Drug Co., Fresno, Calif. Previously Mr. Casebolt was employed as a chemist and photographic expert by the Twining Testing Laboratories of the same city. He also instructs an evening class in Photography at Fresno State College. We wish him every success in his new work.

Nikor Tank

Attention should be called to the fact that the Nikor Developing Tank will actually hold 66 inch lengths of 35 mm. film and not 56" lengths as inadvertently stated in the advertisement of Burleigh Brooks appearing in our September issue. Features of this popular tank are welded stainless steel construction that insures absolute safety and freedom from fog with all developing solutions, including physi-

cal development, and further makes the tank easy to keep clean for the stainless steel always remains bright and shiny so that any dirt is instantly apparent. The handy loading device is also a great convenience for it holds the film with just the right bend to make it slip easily into the carrier. Write to Burleigh Brooks, 127 West 42nd St., New York, N. Y. for descriptive circular.

The Smallest Kodak Ever Made

To meet the demands of amateur photographers for a fine reliable miniature camera in the lower price bracket Eastman Kodak Company announces the new Kodak Bantam, the smallest Kodak ever made.

Kodak Bantam is an ideal camera for the traveler, vacationist, or for everybody who has wanted a second, inexpensive camera to tuck away in the vest pocket or lady's pocketbook ready for instant action at the press of a button.

Kodak Bantam with its molded case weighs only seven ounces, unloaded, and measures $4\frac{1}{4}$ by $2\frac{1}{2}$ by $1\frac{1}{8}$ inches.

Kodak Bantam's extremely small size and new film winding mechanism required a new film spool. The new roll is F828, Kodak Panatomic Film, eight exposures, and retails at twenty cents per roll. Panatomic's fine-grain characteristics that give contact print quality to enlargements, will contribute much to the fine prints made by the new Koda-printer, a new Eastman product for photo-finishers, which will enable the latter to furnish $2\frac{3}{4}$ " x 4" prints, the standard size made by the Koda-printer, from Kodak Bantam negatives at a nominal cost to the amateur.

Several improvements contribute to the simplicity and quick action of the Kodak Bantam. The film spool is self-centering on the winding spindle, greatly speeding up the loading process. A new flexible-flanged film spool is used, guarding against edge or end fog. The new film winding mechanism centers each exposure automatically so the green window is used only to see the number of exposures still to be used.

The new Kodak Bantam has reduced

picture taking to the utmost in simplicity. One feature is the pop-out front made so popular by its big brother, the Jiffy-Kodak. The shutter has one instantaneous speed, with "bulb" action on the Doublet model and a "Time" setting on the f.6.3 model. The Doublet has no diaphragm setting, operating wide open at all times. The f.6.3 model has an f.11 stop for use only when the light is most brilliant, on the seashore in the middle of the day, for example.

The latitude of Kodak Panatomic Film is so great that the full stop (f.6.3) can be used for practically every shot.

Kodak Bantam is used only at eye-level. The f.6.3 model is equipped with an optical-view finder; the Doublet model with a direct-view finder. The optical-view finder is also sold as an accessory for the Doublet model. Sky and Color Filters, No. 30 cable release and No. 8 portrait attachment are sold as accessories.

Agfa Ansco Amateur Catalogue

Agfa Ansco have just issued a new catalogue describing in detail the cameras, film and equipment offered for amateur use by that firm. The booklet is beautifully prepared and contains a great number of fine pictures that will serve to stimulate ideas for ones own work. Any amateur who desires to keep up to date should certainly have this. It will be sent free upon request by writing to Agfa Ansco Corporation, Binghamton, N. Y.

Haloid Lithaloid

Lithaloid Film is a new negative material, particularly designed and carefully developed for photo-lithography, offset printing, and photo-engraving. It is characterized by extreme contrast, making for precise accuracy in retaining line and dot formation. It is also well adapted to maintaining delicate gradations in half-tone work, and is free from halation and irradiation. The new film is available in two grades, orthochromatic and regular in sizes ranging up to 20 x 24 inches. The confidence of the firm in this new product is evidenced by the fact that they are offering trial packages with a money back guarantee. Write to The Haloid Company, 1 Haloid St., Rochester, N. Y. for full information or consult your local dealer.

Our Book Shelves

Pictorial Lighting by William Mortensen. Published by the Camera Craft Publishing Co., San Francisco 7" x 9¾", 112 pages, cloth bound, \$2.00.

In the writers opinion this book is unquestionably the most helpful volume for either amateur or professional that has so far been offered on this subject. There are several reasons for this. First, the book presents a new approach to lighting problems based on the fundamental principles that are common to all the graphic arts. From these fundamental principles is derived the approach and technique most suitable to the peculiar characteristics of photography.

Further it should be noted that the approach and method described lend themselves most completely to the production of pictorial or artistic work with the camera, a condition that is surely desired by all photographers. Second, the book presents a complete system for the production of portraits or figure studies. By which is meant that not only are the lighting set-ups fully described but that the exposure and development technique to be used with them is also carefully considered.

Third, the equipment and procedure is drastically simplified so that confusion is eliminated and all recommended articles are well within reach of the most modest purse.

A brief summary of contents will give the reader an understanding of the scope of the book. Chapter one describes and illustrates the equipment. Chapter two describes the two fundamental modes of graphic representation and develops the esthetic theory upon which this system of lighting is based. Chapters three, five and six, give the five primary types of lightings included in this system, each type being illustrated with diagrams showing both ground plan and elevation. Each type of lighting is also illustrated with full page cuts of Mr. Mortensen's pictures so that

the results obtained with each type of light are fully apparent. Chapter three discusses the technique of exposure and development in relation to this lighting system. Chapter seven summarizes the five types of lights for direct comparison of their characteristics, giving physical characteristics, emotional qualities, and appropriate subject matter for each light. Chapter eight takes up Outdoor Lighting. Chapter nine, high and low key lighting. Chapter ten takes a typical example of Mr. Mortensen's work and describes in detail the arrangement, properties, set-up, and procedure involved in its production. Appendix A includes a critical discussion of other lighting methods. Appendix B gives technical notes on, focal length and gradation. Film and gradation. Color correction. Speed. Latitude. Exposure, and grain.

Modern Photography. Published by The Studio Publications of New York and London. 7½" x 9½", 128 pages, price \$2.50 paper, \$3.50 cloth.

Each year since 1931 the writer has noticed definite improvement in this publication. In its earlier days the change from half-tone to photogravure marked a real improvement in reproduction quality, and in later issues we find an increasingly interesting selection of pictures. In all there are 99 reproductions in full page size. Francis Bruguiere makes some interesting comments on photography as an art form, being concerned primarily with the less commonly practised methods of producing photographs of an abstract nature. His brief description of Man Ray's "solarization" methods will interest many a curious photographer. The section headed "Photographers of Today" contains a series of brief comments by a number of well known photographers in which they state their aims and ideals. Under the heading "To the Beginner in Advertising Photography," John Havinden gives an elementary outline

of the photographic process that appears to be of little value to anyone and is certainly of no value to the beginner.

Leica Manual, by Willard D. Morgan, and Henry M. Lester. Published by Morgan & Lester, Publishers, of New York. $5\frac{1}{2}$ " x 8", 483 pages, price \$4.00 cloth bound.

This imposing volume certainly lives up to the claim that it "covers the entire field of Leica photography." It unquestionably becomes the definitive text book for all Leica users, regardless of whether they produce photomicrographs or photo murals.

We have not had time to read the entire volume, but by carefully checking sections where weaknesses are most likely to crop up we come to the conclusion that the information in this book is thoroughly sound. For instance: most previous books on the miniature camera have been notably bad in the sections devoted to developers and development. A half dozen or more unrelated formulas have been given (some good and some bad) with no specific recommendations and no indication of the relations between them. We are delighted to find that in this book the authors emphasize the fact that there are only two basic types of fine grain developers; the Metol-Hydroquinone-Borax, and the p-diamine-glycin combinations. The essential characteristics and differences of these two types of developers are given, specific recommendations made as to when they should be used and what may be expected of them. This with the addition of two compromise formulas for certain kinds of work constitute the chapter on developing formulas. This desirable simplification and clarification of a field in which there has been much confusing and misleading information broadcast speaks well for the intelligence of the authors and their knowledge of their subject. It might have been well to point out that the increasingly popular DK-76 formula may also be included in the first type mentioned. The editors and principal contributors are Willard D. Morgan, and Henry M. Lester, but twenty others contribute chapters or short sections to the volume.

Profitable Photography With The Miniature Camera, by Edwin C. Buxbaum, A.R.P.S. Published by the Box Tree Press, of Milwaukee. $5\frac{1}{4}$ " x $7\frac{3}{4}$ ", 72 pages, price \$1.00 paper covers.

The main section of this book running from page 17 to 58, is one which should prove very helpful to any camera user interested in selling his pictures. It reviews fifty separate fields in which the photographer may find salable pictures. In each case some indication as to what to take is given and methods of contact and sale are described. The latter part of the book takes up the subject of photographic journalism. In this the author gives useful information on combining one's photographs with short articles for sale to magazines and like publications.

Successful Snapshots: How to Make Them, by W. F. F. Shearcroft, B.Sc., Hons A.I.C. Published by The Fountain Press, of London. $4\frac{3}{4}$ " x $7\frac{1}{4}$ ", 46 pages, price \$.60 paper covers.

We have often heard beginners in photography complain that there are no books written expressly for them—that all photographic books pre-suppose a knowledge of photography that the beginner does not have. To such individuals we recommend this volume. It gives the most simple instructions possible on how to operate the camera, and how to develop and finish one's prints.

How to Make Enlargements, by Frank R. Fraprie and Arthur Hammond. Published by the American Photographic Publishing Co., Boston. $5\frac{1}{4}$ " x $7\frac{1}{4}$ ", 106 pages, price \$.50 paper covers.

This is a revised and enlarged edition of an already well known book that has sold extensively since 1916. It is number 5 in the famous Practical Photography series. Principal additions to the present edition concern a much more complete discussion of the construction of home made enlargers, and several new diagrams and illustrations of different types of enlarging machines have been added. The ideal book for anyone desiring instruction in the methods of ordinary projection printing.

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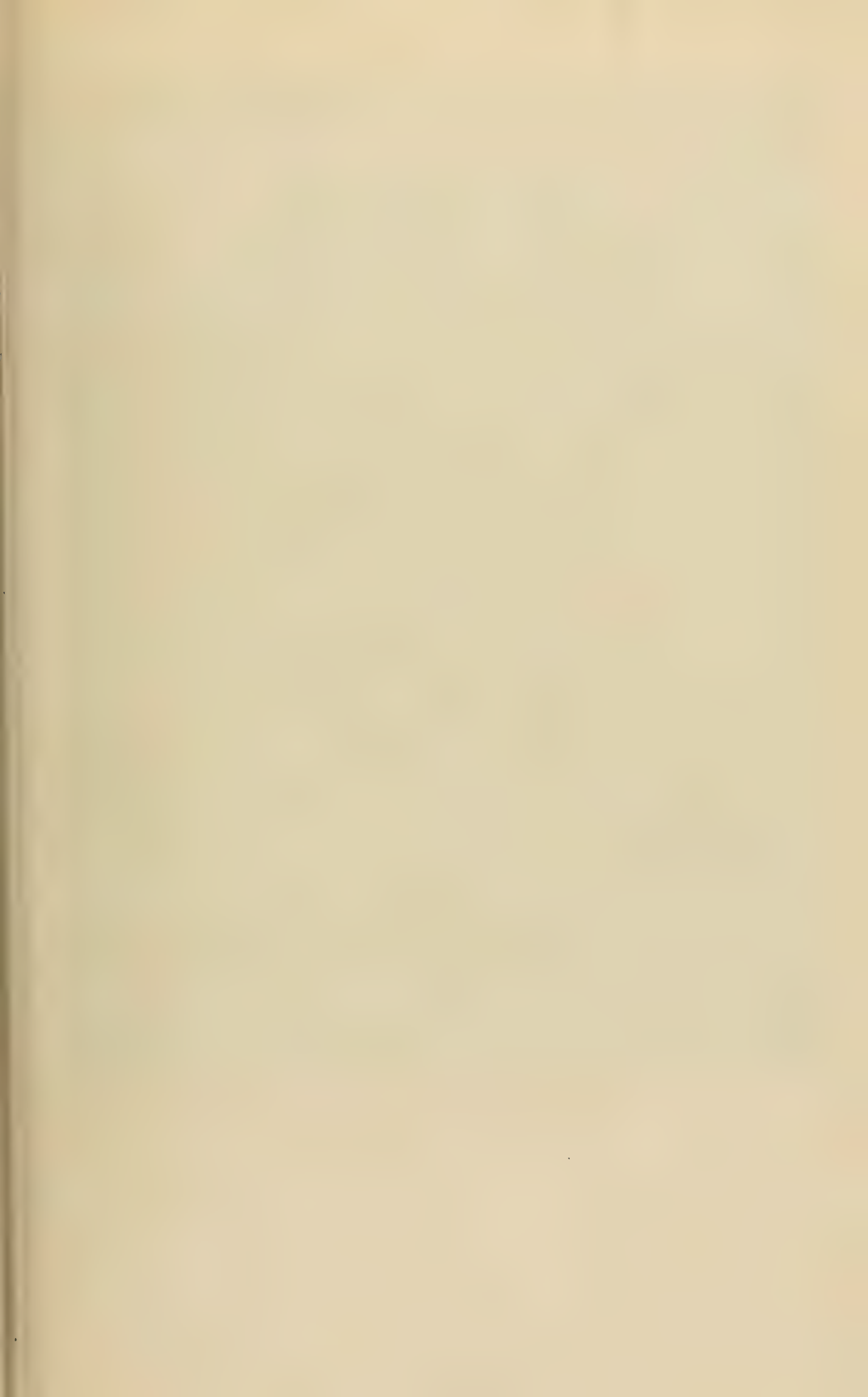
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Giotto's Goat

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The Function of the Model

ABOUT the year 1286, according to tradition, the painter Cimabue, riding over the hills near Vespignano, came upon a shepherd boy who, while watching his flock, had sketched a goat on a piece of slate. Amazed at the life-like quality of the sketch, so the story goes, Cimabue took the boy, Ambrogiotto Bondone, back to Florence with him as his pupil. The later accomplishment of this boy, better known simply by his nickname of Giotto, marked a turning point in the development of art in Europe.

Giotto's goat is, so far as I know, one of the earliest mentioned living models in western art. The boy's naive return to natural sources was a gesture significant in the history of Italian art, which was just then struggling against the lifeless formalism of Byzantium.

The model is a vital factor in the graphic arts, the importance of which we are apt to forget. Without the model as a living, breathing, reacting *fact*, graphic art is prone to fall into rigid formalism on the one hand, and into undisciplined improvisation on the other. Through the meeting of artist and model the miracle of the incalculable, the impulse of the accidental, is brought to pass and incorporated into the work of art. Giotto's goat is the first of a noble line that have made their scantily appreciated contribution to the world's pictorial wealth. Their name is legion, but otherwise they are mostly anonymous. In going through a great art gallery, such as the Louvre, the Metropolitan, or the Pitti Palace, how seldom we give any thought to the nameless army of people "behind the pictures," those numberless men and women, unremembered save as artists have recorded them in paint, whose warm and living presence was the stimulus that brought forth works of art.

The identity of a very few of these models is known to the public.

Nearly everyone who has seen the Mona Lisa knows the story of La Gioconda and the several years that she sat for Leonardo while he struggled to capture the essence of this enigmatic personality. Well known also is the romance of Goya and the Duchess of Alba, the uncouth painter and the lady of quality, and the inspiration that Romney derived from "frail Emma," and the many, many pictures he painted of her. We read also that the quality of Rossetti's work was inextricably bound up in the personality of his model, Elizabeth Siddal, who later became his wife. The fact that the contribution of these ladies, and of others who have played similar roles in art history, was not solely aesthetic and disinterested, does not confuse the issue. The sex impulse and the art impulse are fundamentally very closely related. Both are profound, irresistible, and immeasurably subtle.

More than any other of the graphic arts, photography is dependent on the presence of the model. For instance, it is not possible in the model's absence, as in the other arts, to work up the finished picture from the preliminary sketches. Nor is it feasible photographically, though perhaps just barely possible, to make a composite of Mary's face, Susie's body, and Annabelle's hands. In other words, the model must be *there*, and she must closely conform in all points to that which she is to represent. And when she is there in front of the camera, and she proves to conform physically to that which is desired, the problem of the model is but partly solved; for she must be made to understand and be brought to *express* that which the photographer is seeking to tell in his picture.

It is strange, in view of its very great importance to pictorial photography, that the contribution of the model should be so little understood, and that so little should have been written on choosing models, dealing with them, and directing them, to secure the best results from them.

In the association of artist with model, one of three different conditions of working may exist. It is necessary to understand and discriminate between these three conditions of working, as each is fitted to a distinct type of model and each results in a different type of picture. These three conditions are:

1. The artist is dominant.
2. The model is dominant.
3. There is co-operation between the two.

The condition of complete dominance of the artist over the model is appropriate to pictures in which the emphasis is on purely *plastic* elements. Neither personality nor drama enter into the picture; the model is, in effect, the passive clay which the potter-artist moulds to his will. Most nudes belong in this category. So also do many pictures in which large groups are used. Such pictures, particularly if they are being worked out from a preconceived sketch, are concerned with large problems of composition rather than individual expressiveness.

When the model is dominant, we have the working condition that results in vivid portraiture. The *personality* of the sitter shines forth, unadorned by any comment or obvious arrangement by the artist. The acceptance of this working condition assumes that the model possesses a photographically effective personality. This condition is, naturally, the



"Fragment"

William Mortensen

*Living model; Passive type; Following controls used: Plastic light,
passe-partout, opaque and permanganate.*

appropriate one for photographing professional actors. Ideally, it is appropriate for all portraiture; but, unhappily, not all who come to sit for pictures have personalities that are immediately effective in the photographic medium. In such cases the photographer is obliged to exert his directorial prerogative and attempt to create a pseudo-personality that will be acceptable to friends and relatives.

The condition of co-operation, the third possible relationship between artist and model, must exist for the production of pictures in which an *idea* is involved. When interpretation into pictorial terms of a dramatic theme or characterization is sought for, it may be obtained only by a sympathetic collaboration of artist and model. This collaboration need not be obvious or physical. There is no need for extensive and long-winded consultation. But sympathy there must be, a sense of *rapproch*, and an identity of purpose. Such collaboration is from the very nature of things rare, but from it spring the finest accomplishments in pictorial art.

Although an experienced and accomplished model may be able to adapt himself or herself to any of these three conditions of working, clearly the three conditions demand three different types of model, with widely different equipment and qualifications. These three types we may for brevity's sake designate as follows:

1. The passive type.
2. The personal type.
3. The co-operative type.

In order to get the best work out of models, it is necessary to appreciate the qualities of the three different types, to be able to choose them according to type, and to understand the different sort of direction that each type requires.

For the passive type the principal qualification is the physical one. If nudes are in view, of course the figure must be good and the carriage graceful. No great intelligence is demanded of this type nor any particular dramatic power, but the model *must* possess the ability to subordinate himself or herself to the artist's direction. Excessive exuberance or flightiness is a definite handicap. If the model is intelligent and has dramatic ability, there is possibility that he or she may be developed up to the point of doing pictures of the co-operative type. Indeed, extensive work under the passive condition is the best training and preparation for a model of the latter type.

Photography of the nude involves some rather delicate issues in the relation of artist and model; so it seems advisable to mention a few specific points by which a figure may be judged in advance, and possible disappointment to the artist and embarrassment to the model may be avoided.

The first thing to bear in mind is the camera's tendency to increase the apparent size and heaviness of the figure it photographs. Therefore, for photographic purposes, a figure that is small and spare and tightly knit is to be preferred to one that inclines to voluptuousness or to Junoesque proportions. Realize also that the face is a very poor guide to the excellence of the figure. For some reason the Creator has very oddly assorted faces and figures, has assigned beautiful heads to squat torsos, and has crowned perfect bodies with very imperfect faces. From my own



"Steel Stocks Advance"

William Morfensen

Co-operative type

observation I have noted that a fine figure is quite apt to be accompanied by a receding chin.

The structure of the calves, ankles, elbows, neck and shoulders is a criterion by which the structure of the rest of the body may usually be safely judged. A calf diminishing into a *slender ankle*, although a conventional token of beauty, does not usually signify a good figure. On the contrary, such structure frequently goes with wide hips and thighs and with heavy breasts. Rather, a fairly substantial foot and ankle without an unduly bulging calf should be sought for. Should it be desired, as a concession to popular standards, to thin the ankle somewhat, this may be easily accomplished on the negative or print.

If, when the joint is bent at right angles, the elbow bone protrudes noticeably, it is probable that the crest of the illium (the hip bone) protrudes in a similar manner. In nudes, such a fault of the illium is a serious blemish, as it breaks the smooth sweep of the figure.

The first time a model poses in the nude for a photographer is always a touchy proceeding. It calls for the utmost tact on the part of the photographer. He must realize the model's probable embarrassment and act accordingly. Avoid any prolonged or obvious scrutiny. His manner should be matter-of-fact, impersonal and serious, but should never suggest brusqueness. By working fairly swiftly and plunging quickly into the problem at hand the model's mind may be distracted from the strangeness of the situation. If photographers would exercise more care, consideration and tact, it would happen less often that a model's first session of posing in the nude is also her last.

Models of the personal type (see frontispiece for example)—the second in our classification—are readily placed by their immediately arresting and vital quality. Portraiture of notables of stage and screen and public life deals, in effect, with models of this type. The persons themselves, what they are, how they express themselves, these things are the central interest, not how the artist expresses himself through them.

The artist's task with such a model is primarily one of *recording* vivid and significant moments. He must practice severe self-abnegation, rigidly excluding his own personality from the problem. The model must feel no slightest sense of restraint, but must be encouraged to take the lead, to be himself utterly, to express himself fully. Meanwhile, the artist exercises, as unobtrusively as possible, some control in matters of composition.

Usually, a model is not equipped to qualify for the third (co-operative) type until he or she has had considerable experience in working before the camera in problems of the passive type. Under these circumstances an occasional model will reveal, by a ready intelligence and an aptitude for dramatic expression, a fitness for coping with more significant pictorial problems. Such a one, by training, may evolve into what is the highest type of model, one that is capable of collaborating with the artist. Only by the use of a model of this sort is it possible to escape the shortcomings of the other two types—the emotional lack of the first and the topical character of the second—and to achieve pictorial work that is

solid in substance and authentic in emotion, with perfect balance between control and expression. The combination of apparent spontaneity with fine composition is the rarest of pictorial qualities, and may be attained only by patient co-operative effort of model and artist. Photography is probably the only medium that permits of such complete co-operation.

For a model of this type a native dramatic ability is generally more useful than a background of professional stage or screen experience. There is apt to be a certain over-facility and smugness about the work of professionals. They are inclined to utilize stock effects from their repertory instead of the sincerely felt emotions that the untrained actor strives for. The eye may be impressed by the slickness of the professionals' work, but the less impressionable camera detects and reveals any note of insincerity.

It is impossible to offer any particular suggestions about dealing with and directing a model of this type, as it is so completely a matter of personal relationships. As a matter of fact, there is frequently very little "direction" of the model, in the conventional sense of the word. A picture may be conceived and planned in a series of discussions and may exist clearly limned in the minds of artist and model long before a camera is set or a shutter clicked. In general, every effort should be bent to make the relationship a true collaboration—but in an atmosphere of strong mutual respect.

* * *

Photographers have for a long time been gazing with hypnotic absorption at this mechanical-optical marvel, the camera. Let them lift their eyes and consider that which is in front of the camera. There waits the model—Mona Lisa in the person of Mary Jones. What are they going to do with her? It would be well if photographers could forget for a while the expensive camera and its marvelous insides and the impressive array of chemicals in the closet under the stairs, and concentrate solely and definitely on the model. For it is through the model—whether it be a goat or a duchess—that Life is made to stir in the dead substance of the picture.

The foregoing is derived from the introductory chapter of Mr. Mortensen's book on "The Model", now in preparation. This book will discuss the selection of the model, the inter-relationships of artist and model, and the host of problems involved in posing.—Ed.

When The Snow Flies

Karl A. Barleben, Jr., F.R.P.S.

WHEN the air is frosty and the sky is overcast with a heavy, leaden pallor, the sunny-day camerist becomes disgruntled because he cannot make pictures, the likes of which he enjoys. The real enthusiast, knowing that the camera is not only a fair-weather instrument, may suddenly experience a delicate thrill of enjoyment—for he knows that the sullen skies during the winter months spell snow, and snow, as he is well aware, makes one of the most fascinating and beautiful subjects imaginable for the camera. Then, too, it affords him the opportunity to tramp over the snowy landscape, sinking perhaps knee-deep in the soft, fluffy substance, his lungs inhaling the sharp, crisp, wintry air which is a stimulating tonic for jaded and jangled nerves and lowered vitality from too much office or indoor work. He is very likely inclined to pity the poor souls who live in places where winter and snow are unknown.

Snow photography opens up entirely new fields for the amateur photographer who has never attempted this sort of work, and what makes it so interesting is that it offers ever-changing scenes and conditions. It is, too, photographically tricky to handle, for it does not give in without a struggle, a struggle in which the photographer's knowledge always conquers. Supposing it has snowed during the night, and on the following day the world is cloaked in a dazzling, pure-white mantle. The sunlight floods the streets, roads, trees, houses, and all other objects with its brilliant glow which is reflected strongly by the snow. The atmosphere is crystal clear, the light bright—who can remain indoors, or leave his camera at home on going out?

The camerist soon discovers that snow photography has a technique all its own. The prime requisites are correct exposure and a yellow filter. Without these, successful snow pictures cannot be made except under very exceptional conditions. A good exposure meter is therefore, strongly recommended as a constant companion to the camera when afield. The



"Shadows on the Snow"

Karl A. Barleben, Jr.



"Snow-Laden Boughs"

Karl A. Barleben, Jr.

reason for this is that the winter light is very deceptive—to the eyes the snow, reflecting the light as it does, is very dazzling, leading one to believe that the intensity of the illumination is tremendous. Actually, winter light is relatively feeble, and while the snow tends to amplify it, the exposures required for the necessary density on the negative image are greater than one would judge. The only sure way of getting the proper exposure, then, is by using a reliable exposure meter, preferably one of the photo-electric cell type.

As for the yellow filter, it is necessary to understand that while snow is "pure" white, it contains the color of objects which are reflected upon it. Take for example shadows such as created by tire-tracks, crevices, and the like. Examine carefully these shadow portions of the snow. On casual observation they appear black, but actually it will be found that they are of a decided bluish cast. As blue photographs light or white, depending upon its shade, our picture would result in washed-out shadows which would destroy all semblance of beauty or reality in the scene. Those shadow details must be preserved, and the best way of doing this is by using a filter over the lens. A medium yellow filter is usually chosen, although a pale red filter is sometimes used in cases where shadows are



"The Lonely White Road"

Courtesy E. Leitz, Inc.

to be recorded as dense or black.

Panchromatic film is suggested for snow scenes, although orthochromatic film will be found entirely suitable for all ordinary purposes. The idea is to reproduce the texture of the snow, and this can be done most successfully by getting the direction of the light just right, giving the correct exposure, and using a filter. It all sounds simple enough, but thousands of amateurs get nothing but pure white, blank expanses on their prints from snow negatives. This difficulty can usually be attributed to their failure to observe one or more of these simple rules.

The photography of simple snow scenes is in itself a wonderful diversion, but there are many other types of pictures which offer excellent opportunities. For instance, snow scenes at night, illuminated by one or more street lamps or store-front lights result in odd and novel effects. Then there are icicle formations, usually to be found suspended from the roofs of houses. A close-up of a cluster of icicles, the sunlight coming from an interesting angle, makes a most attractive picture, many of which have been seen in photographic salons. Frost-crystals which form on window-panes attract the attention of some workers, and these are indeed wonders for the eyes to see. This comes under the heading of close-up photography. Coming still closer, the making of photomicrographs of the snow crystals themselves is a fascinating pastime, provided you have a suitable microscope which can be coupled with the camera and don't



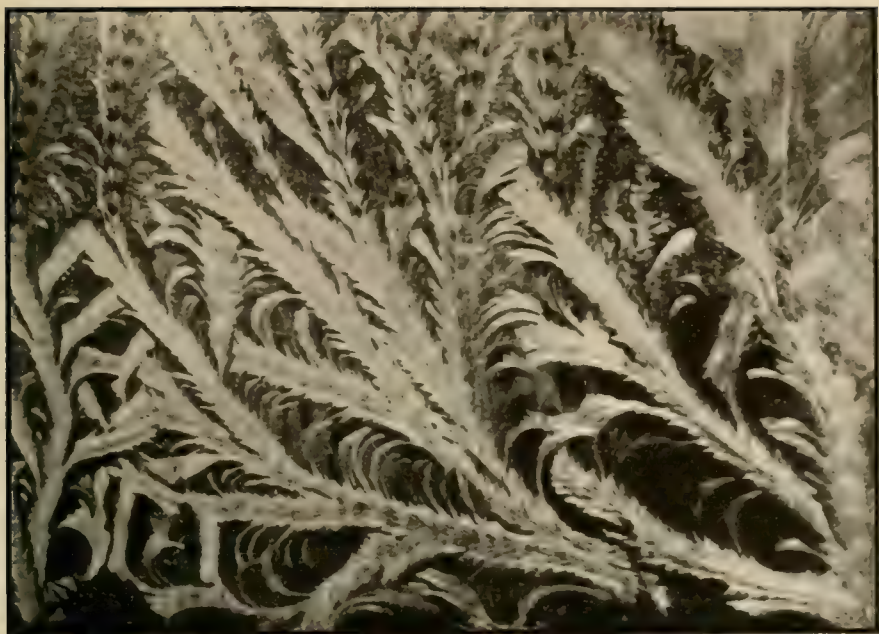
Winters' White Mantle"

Karl A. Barleben, Jr.

mind staying out in the snow while the flakes are collected on a microscope slide and quickly photographed.

One of nature's beauties which is not seen or noticed by many is "hoar-frost," an effect which results from a rain which is quickly followed by a sharp frost in late winter. The trees and bushes are particularly attractive, each limb and twig being encased in a thin, delicate coating of ice which glistens and gleams in the light. Imagine every surface and object which can be wetted by rain encased in a wrapping of, say, cellophane, and you will gain some idea of what this quickly vanishing effect is like. "Hoar-frost" is an elusive proposition, however, for it soon disappears, the sun quickly melting it, even if the air is quite frosty. Late winter is a good time to watch for "hoar-frost," for then the climatic conditions are usually most favorable. It is only the observant amateur who can quickly pick up his camera and scoot out to the park when the precise moment arrives, who succeeds in capturing nature's beauties of this type.

Both city and country dwellers are equally favored by snow, and both have at their disposal marvelous picture material. Hardly a city exists today which does not have a park of some sort handy in which the camerist can photograph interesting snow formations—trees, shrubbery, lanes, ponds—all have their attractive camera angles. In this country, the amateur need only step out of his house and he can, usually find ample



"Frost Crystals on Window Pane"

Walter N. Kahn

material at which to aim his lens. One of the interesting things about snow photography is that it takes the amateur out of doors on long, invigorating walks through the snow, in search of suitable pictures. This, most are glad to partake of, for they welcome the opportunity to get out in the open, and their camera gives them a real excuse.

It should not be thought that the crowded city streets are devoid of material. On the contrary, traffic, gangs of snow-shovelers clearing away the drifts and banks of soiled snow, snow-plows scraping the car-tracks and streets smooth—these and countless other activities make interesting snow pictures.

One seems to get closer to nature, however, in the more isolated spots as in the parks and the country. Here all is silence, and the amateur is "captain of all he surveys." It is not necessary to photograph a landscape to indicate a snow scene; a section of a tree or bush, an edge of a tiny stream, the snow silvery-white right down to the water's edge, peculiar snow formations or spectacular angles of light are easily seen and captured by the camerist endowed with a sense of art and beauty. The solitude, enjoyed by many, serves as a sharpener of the wits and eyes; one can browse at one's leisure, selecting just the right lighting, the proper angle for each exposure.

In short, snow is a most fascinating and enjoyable subject for the camera, and as such should be made the fullest use of, particularly as it is not dependable—you never know whether the next day will bring a blanket of snow or not. If you are not ready for it and seize the moment, your opportunities will slip by before you know it.

Polarized Light

Charles D. Raudebaugh

○ NE of the outstanding scientific developments in photography in recent years, the polarized light filter has made its appearance in Hollywood.

Although the screen, marketed by Eastman under the name of the "Pola-Screen", will soon find its way to the photographic counters throughout the world, first word of its uses and application comes from Hollywood, national photographic center.

The filter permits the hitherto impossible feats of shooting through glasses of water, through windows, and eliminating reflections from shiny surfaces. Veteran Hollywood cameramen expressed well-founded amazement when they witnessed operation on the screen.

In addition, it permits complete variable depth control of clear blue skies without color distortion of foreground objects, thereby eliminating the K-1 and K-2, the X-1 and X-2, and the red filters for much outdoor work. Night effects are obtained by using a red filter with the Pola-screen, and Eastman experts claim it offers the only known way of obtaining dark sky effects in color photography.

These almost unbelievable results are accomplished—as is usual, in developments of this kind—by the application of a simple scientific fact. It prompts the observer, who has heard its operation explained in words of one syllable, to say, "My, how obvious! Why didn't someone think of that before."

Through the courtesy of the 20th Century-Fox Film Corporation, and Darryl F. Zanuck, its production chief, CAMERA CRAFT is able to furnish its readers with an early explanation of the new discovery.

In addition to color and brightness, light has a third property, called polarity. It is concerned with the way a light ray vibrates. Ordinary light

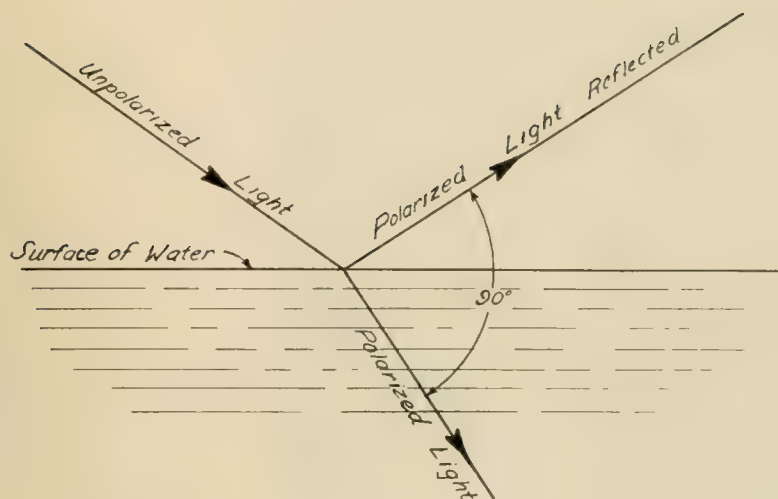


Fig. 1. Above is illustrated one way in which Polarized light may occur in nature. The amount of polarization depends upon the angle at which the light strikes the transparent medium. At certain specific angles, depending upon the nature of the transparent reflecting medium the reflected light can be almost totally polarized. Such ideal conditions are illustrated above. In such cases the reflection may be almost entirely eliminated by rotating the Pola-Screen so that the direction of the tubular cells are at right angles to the vibration plane of the polarized reflected light.

rays, from a lamp or the sun, vibrate in all possible directions at right angles to the ray itself. A ray is polarized when all vibrations but those in one direction are eliminated; for example, in a vertical ray, only the north and south vibrations might be left.

By means of a series of microscopic, tubular cells spread across its surface, the Pola-screen "polarizes" light rays that pass through it. It polarizes these rays in the direction of the "vibration plane" of the screen, which has been constructed to lie in line with the handle of the filter.

Now, assume we have a horizontal light ray coming into the filter and passed on through it to the lens and then on to the film. This light ray is polarized, or vibrating, in an up-and-down direction. The vibration plane of the Pola-screen is also in an up-and-down direction. The light ray therefore passes on through the filter and so to the film.

But, if that ray were coming from the surface of an object, where there is a reflection we wish to "kill", we simply start rotating the Pola-screen slowly in its mount. This causes a gradual absorption of the polarized light by the tubular cells of the screen. The peak of absorp-



Fig. 1.
Without
Pola-Screen

tion is reached when the Pola-Screen has been rotated 90 degrees from its original position.

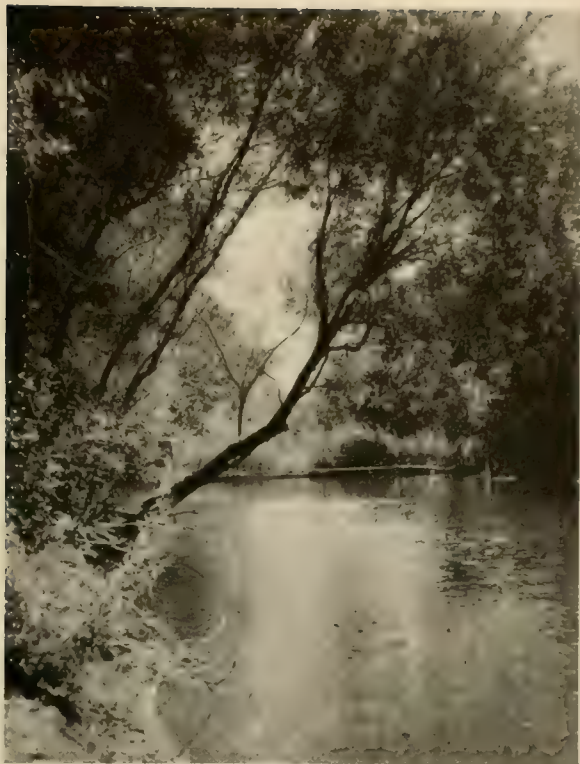
Meanwhile, all other light coming to the filter has itself been polarized by the tubular cells, but IN DIRECTION WITH the vibration plane of the screen. These rays are thus permitted to pass on through to the focal plane.

The need for this control of polarized light lies in the fact that polarized light is present in nature. Clear blue skylight, arriving at right angles to the sun's rays, is strongly polarized. Light reflected at about 30 degrees from any non-metallic surface is polarized by the act of reflection. These two sources permit application of the Pola-screen.

Because of the polarization of light when it is reflected at a 30-degree angle, the lens axis must be at a similar angle in relation to the reflecting surface when one seeks to remove reflections. At a 90 degree angle no control is obtained. However, with a camera angle of 30 degrees, reflections can be removed from glass or water to show detail beyond or below. Light and background reflections can be removed to show texture and pattern in such surfaces as grained wood, linoleum, tile, brick, painted objects, and similar subjects.

A lens hood must be used with the Pola-screen as the screen has a

*Fig. 2.
Pola-Screen in
upright position
passing most of
the polarized light*



slight light-scattering power, according to Eastman. With panchromatic materials—which are all that Hollywood uses—the filter requires a four-time increase in exposure.

Principal Hollywood tests of the filter have been confined to the motion picture camera, naturally. The only "still" shots available were the accompanying illustrations taken by Bill Thomas on location with the company of "Metropolitan," recent 20th Century-Fox production.

While not illustrating the full utility of the new screen, they clearly indicate its possibilities. The sky-filtering qualities of the screen are not demonstrated for the reason the pictures were taken on a day that the blue sky was obscured by a high, extremely brilliant, white haze.

Picture Number One was taken without the Pola-screen. Number Two was taken with the Pola-screen in an upright position. Note that while it has not affected the principal reflection area, it has however begun to eliminate some of the other polarized rays for the reason they were not in line with the vertical vibration plane of the screen.

Photograph Number Three was taken with the Pola-screen rotated at a 90 degree angle from the upright position. In this, all but the most intensive of the polarized light has been eliminated. The reproduction may not show it, but the original 8x10 contact print discloses a greater



*Fig. 3.
Pola-Screen set for
maximum effect. Compare
with Fig. 1 and note
marked difference in
reflection from water.*

separation of tones in the background.

It should further be observed that large Pola-screens may be used over the light source, when artificial lighting is used, making it possible to direct polarized light onto the object being photographed and thereby greatly increasing the extent of control. The following summary of the properties and uses of the Pola-screen is taken from the Journal of the Society of Motion Picture Engineers. It was compiled for motion picture work, but in practically every case is equally applicable to still photography.

Properties Of The Pola-Screens

A. Pola-Screen over Lens Alone.—(1) Reducing polarized skylight to bring out clouds and other objects: A very dark sky may be obtained in color photography by this means which is impossible to achieve otherwise. The effect is greatest at right angles to the sun's rays. Therefore, at sunrise the region of greatest effect is north—overhead—south; at noon—near the horizon in all directions; and at sunset north—overhead—south again. The arc swings from overhead to the west during the morning, from the east to overhead in the afternoon, passing through every part of the sky.

Ordinary objects, faces, blossoms, trees, mountains, buildings, etc.,

can be made to stand out against the sky in a very beautiful manner. If desired, the brightness of the sky may be increased relatively to objects photographed against it, by rotating the Pola-screen to the appropriate position. In black-and-white photography, the Pola-screen can serve as a filter of variable depth—anything from red filter sky effects (without distortion of tone values) down to no filter effects may be attained by rotating the Pola-screen to the desired position.

(2) Changing the contrast of various parts of a subject, without changing the lighting: This effect is very marked in the case of the walls and roofs of buildings, sunlighted water, and pavements from above.

(3) Photographing subjects in water, from above: When the angle between lens axis and water surface is about 32 degrees, all reflections from the water surface are eliminated. Reflections may be removed to some extent at other angles, but not at zero or 90 degrees.

Photography through glass or other transparent media: As in the case of water, at 32 degrees from the surface, reflections can be completely removed. This effect can be used to produce double exposures by placing a thin pellicle mirror in front of the camera lens at the required angle, and rotating the Pola-screen at the lens. The image reflected by the pellicle mirror appears or disappears according to the angle of the Pola-screen. Other more obvious applications will suggest themselves, such as photography of aquaria, through windows, and so on.

B. Pola-Screens over Both Lenses and Lights.—(1) Subduing specular reflections from metallic and other glossy objects: Metallic reflections can not be eliminated entirely, but can be subdued very greatly. Reflections from most other objects can be eliminated if desired. The Pola-screen over the camera lens is crossed with those over the lights for the greatest effect.

(2) Increasing specular reflections: Articles may be made to appear unnaturally glossy. The change, while considerable, is not as great as that possible in the opposite direction. The polarizing cells are used parallel.

(3) Increasing color saturation: By removing the surface reflection, which is white, the colors of an object increase in their saturation, that is, their purity. The crossed arrangement produces such effects.

(4) Effects upon faces: The crossed position produces a strange matte effect, with no luster whatever, and the facial colors are exaggerated. The parallel position has the opposite result—a very perspiry appearance, with the colors subdued.

(5) Photographing wet objects: The surface reflections from wet objects, such as clinical specimens, present a severe problem, as they hide detail. These reflections may be subdued as desired, or eliminated at the crossed position.

(6) Copying matte prints, pencil sketches, newsprint reproductions, and paintings: Matte prints reflect light specularly in all directions. When this specular component is removed the blacks of the print become much blacker, so that the use of crossed Pola-screens produces a brightness range in the print that is even greater than that of a glossy print viewed in the normal manner. Likewise, the reflections can be removed from

pencil graphite and ink particles, producing intense blacks.

(7) Animation cells: Reflections from cells used in animation work build up with successive layers so that contrast is seriously affected, limiting the number of cells which may be used. These reflections may be greatly reduced by the crossed arrangement of Pola-screens.

(8) Birefringent crystals and fibers: The phenomenon known as birefringence causes any transparent object, possessing the property, to light up, frequently in vivid color, when placed between two crossed Pola-screens. Cellophane, silk, cotton wool, and many natural crystals have this property.

(9) Strained glass and celluloid: Any strained transparent medium displays birefringence, and when placed between crossed Pola-screens, shows a strain pattern.

C. *Applications in Lighting and Printing.*—The variable transmission of two Pola-screens together suggests a number of possibilities. Two Pola-screens used together over the lens constitute a variable neutral density filter, which may be of interest in making fades in some cases. The same arrangement can be used as an intensity control in a printer, and has the merits of simplicity; moreover, it does not cut down the area of the beam.

Two light-source Pola-screens together can be used for controlling spotlight intensity. Cellophane added between these units introduces various color effects.

Various lightings are possible with one Pola-screen over the lens and others at the lights. It is possible to place a back light so covered directly in the camera field. It is also possible to control the light reflected from any light so covered. A control, at the camera, is thus provided. It is therefore possible to photograph the same set with two cameras and obtain quite different lighting effects.

Technical Data

The Eastman Pola-screens have a spectral range of polarizing power from 400-700 μ . They absorb in the ultraviolet, and transmit freely, without polarization, in the infra-red. They can be damaged by excessive heat, by placing them within a few inches of a lamp bulb, or imaging a lamp filament upon them.

The most suitable negative materials are the panchromatic materials now in general use. While it is possible to use the Pola-screens with orthochromatic or even with non-color-sensitized materials, the exposure increase is very much greater.

The exposure increase, for the Pola-screen over the lens alone, is about four times. For Pola-screens over both lens and lights, the exposure increase is ten times and upwards, depending upon the nature of the subject. When using a photoelectric type of exposure meter, the Pola-screen for the lens may be held over the meter window at the intended angular position of the Pola-screen. The meter should always be used at the same angular position, as some of these meters are slightly polarizing in their sensitive element.

The Pola-screens have a slight scattering power, so that those for

lens use must be screened from all extraneous light by a proper lens hood. The Pola-screens supplied for light-source use are not suitable optically for lens use.

If calibrated angular scale is desired for repeating and recording settings used for Lens Pola-screens, the following is suggested:

	Angle	Scale Figure	Effect
Parallel position	0	0	Increased gloss
	45	1	Neutral
	60	2	Decreased gloss
	70	3	"
	76	4	"
	80.5	5	"
	84	6	"
	86.5	7	"
Crossed position	90	8	"

The intervals of this scale will be of equal effectiveness in cutting down the polarized light entering the Pola-screen.

The vibration plane of the Pola-screen meant for lens use is in line with the handle of the mount.

The novelty of this subject makes it difficult to say just what application will be of most value. It is, however, a new tool, by which new effects may be achieved, and its limitations are imposed only by the imagination of the user.

This article is presented because CAMERA CRAFT believes that its readers desire to keep up to date on all matters pertaining to photography even though they may not actually make use of the information themselves. Unfortunately it appears that amateur use of the Pola-Screen will be drastically limited by the cost of the article. We have not been able to obtain complete details as to cost but are informed that a screen approximately 3½" in diameter, for use on 8x10" film will cost about \$125.00.—Ed.

Bromoils And Transfers

Charles H. Partington

Part I

IT IS just possible that with fall and winter so close at hand together with the photographic print productivity that rides with these seasons, this series of articles on bromoils and transfers will be timely. I have an idea there is quite a host of workers interested in these printing mediums but a few attempts with unsatisfactory results or the hearsay of extreme difficulties has deterred them from going further. These beautiful and fascinating printing processes are not full of pitfalls, and previous to offering formulae and methods I desire to call attention to various points well proven by fifteen years of experience.

Failure of the bromoil to take ink properly is caused mainly by the bromide paper used being unfit for the work. Due to certain conditions of the gelatin, some papers are entirely unsuitable. Improper bleaching and tanning are just as bad as unsuitable paper. Ink that is too soft originally or made soft by brushes that still contain unevaporated cleansing medium, result in whites on the print that are not clean. A developing light which is not safe will also result in clogged highlights even though the whites of the bromide print *appeared* free from fog. You must have suitable paper, a safe developing light, a proper bleacher and hard ink.

Regarding the various points brought to my attention that were designated as detriments to perfect results but which, in reality, are of no consequence the following are well worthy of note.

Fresh bleacher for each print or for each working period, is not necessary. As long as the solution will bleach the print, it is performing its function. Lengthy bleaching does no harm and the idea that this part of the process should be no longer than required to take care of the deepest black has been proven of no value. I have taken prints of the

same subject, same treatment throughout and bleached one by the short method and the other on the lengthy basis. Both prints inked beautifully with the lengthy bleach offering more flexibility of control. Furthermore, an exact temperature or length of time for soaking previous to inking is of little moment nor is a high relief or even a visible one necessary for good results. Distilled water is a nice thing of course, if you can afford it, for any photographic work, but it is not at all necessary for bromoils. The need to ink a print within a short period of days after processing is claimed by some to be essential but this falls flat in the face of the fact that I have inked prints that worked perfectly after being stored for twelve years after bleaching.

Now, after discussing the matter of drawbacks which, on the whole, are more imaginary than real, it is in order to start at the beginning, especially for the benefit of those just attempting bromoil work.

Briefly, a bromoil is a print made on a suitable bromide paper, either by contact or projection, which, after being handled to produce the usual direct result, is treated in such manner as to receive an application of ink. The finished bromide print after treatment results in the silver image being bleached so as to be almost invisible while the gelatin of the emulsion undergoes a tanning process. The tanning is most effective in the shadow portions while little or no action takes place in the highlight sections. The action on the various tones between the extremes of highlight and shadow results in tanning that is proportionate. The tanning of the gelatin makes it impervious to water and when the print is soaked in water the highlights absorb much moisture while the shadows take little or none. When suitable greasy ink is applied, the water-soaked highlights repel it while the shadows attract it. The bleached and tanned image is then reproduced in ink instead of the original silver deposit.

The transfer results from putting the freshly inked bromoil in contact with a suitable grade of paper such as used for drafting, water color, etc., then applying pressure, after which the two papers are separated. The ink from the bromoil transfers to the drawing paper. As a general rule, pressure is applied by means of a suitable roller press and the mechanics of making a transfer in this manner is very like that concerned with making an etching. The only difference lies in the fact that an etcher uses a metal plate for the original inking while a bromoil transfer receives its image from an inked bromide print. The etching image is composed of lines, stipple, etc., while the bromoil transfer produces a result much akin to a lithograph.

A single transfer, which means a print produced by only one impression, is very seldom satisfactory due to the ink being absorbed by the paper to such an extent as to leave the image dull and lifeless. A single transfer of fair quality is only possible when the subject matter is of such nature as to allow heavy inking of the bromoil right at the start. The multiple transfer, made by two or more impressions, from a lightly, re-inked bromoil for each impression, results in building up a quality and richness of the image which is difficult to surpass. It is only on rare occasions that my finished picture is a bromoil as this original inked

print is merely a stepping stone to the ultimate transfer. The fascination of making a transfer is not the only point of interest as the real goal is a picture embracing productive and artistic skill not involved in the photomechanical process of a print composed of the chemical image only.

To the beginner it may seem that quite an elaborate array of equipment is necessary and that the process is unduly complicated but such an idea prevails only when not having practiced the work. Just for regulation work to produce a picture by projection, the equipment, supplies and procedure includes camera, film or plate holders, trays, safelight, bottles, scale, graduate, thermometer, developing tank, projector, films, paper and chemicals. The process includes loading camera or holders, unloading, loading developing tank, developing, fixing and washing. Later there is setting the projector, exposure, developing fixing and washing. This represents quite a staggering list and is in reality more lengthy than that concerned with bromoils and transfers. Of course the above list is from beginning to end while bromoil work is additional after the print has been made. The idea is to call attention to the fact that the every day job of making a picture involves more than one would imagine because the worker is used to the procedure. When one is familiar with bromoil work it will be found not at all complicated.

Consideration will now be given to the making of the bromide print and its preparation for bromoil previous to inking. An article to appear next month will be devoted to the bromoil itself while a third article will deal with the transfer.

The first requisite is the solutions and the formulae concerned which for the convenience of the worker, are given in a group for quick reference when being made up. Detailed instruction regarding actual use will follow:

Developer

Water	30 oz.
Sodium sulphite (dessicated).....	500 grains
Amidol	75 "
Potassium bromide	15 "
Sodium Bisulphite	75 "

Short Stop Bath

Water	30 oz.
Acetic acid (28%).....	1 1/2 oz.

Fixing Bath No. 1

Water	30 oz.
Sodium Hyposulphite	5 oz.

Bleaching Bath

Water	30 oz.
Copper sulphate	160 grains
Sodium chloride (common salt)	2 oz.
Hydrochloric acid (C P)—	

Add drop by drop sufficient to clear
the solution somewhat.

Potassium Bichromate	21 grains
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ACID BATH

Water	30 oz.
Sulphuric acid (C P)	$\frac{3}{4}$ oz.

FIXING BATH NO. 2

Water	30 oz.
Sodium hyposulphite	3 oz.
Sodium sulphite	1 oz.

Developer should be made fresh each time and not overtaxed. A thirty once solution as given should not be used for more than the equivalent of six 8 x 10 prints. The amount of potassium bromide should not be less than given but more will do no harm. Sufficient must be used to preserve the whites. The short stop bath used after development is another solution not to be overtaxed. Use a fresh fixing bath at all times for bromoil as it is extremely cheap and the small saving resulting from repeated use may cause more trouble than it is worth.

The bleaching bath as given can be used repeatedly until exhausted but as it also entails only small cost it is best discarded when its action becomes slow. The volume of thirty ounces is easily capable of working properly for twenty-five 8 x 10 prints or equal. The acid bath after bleaching is not essential in warm weather, especially where the climate is moist, but it really is a help at all times as it tends to soften the gelatin for a better absorption of water and consequent better inking. A stubborn gelatin can be made workable by increasing this two and one-half per cent acid bath to four or even five per cent when necessary.

The making of the bromide print has been the subject of much concern by some workers with quite a bit of emphasis placed on the matter of quality of image, slow or fast development, etc. In my own work I have never found it necessary to make other than a straight, clean print exactly the same as if bromoil was not the goal. The only modification practiced is to make a light print for certain subjects where delicate effects are desired, especially when multiple transfer is concerned. In making the light print it must result from shorter exposure and not short development. The print made for bromoil no matter whether light, dark or normal, must at all times be fully developed if proper results from the bleacher are to be expected.

Handle prints at all times in any solution or washing so as to insure even and complete action. Developing is practically always a matter of one print at a time in the tray but for fixing, bleaching and acid baths, care should be given that two or more prints do not interfere with each other for proper action. In these solutions as well as all washing keep prints moving in such manner as to insure full benefit of each part of the procedure.

With the above paragraphs covering a general discussion of the process as well as giving instructions for the production of the print we are ready for the bromoil itself to be taken up in detail in the next issue.

(To be continued)

Cinema Section

Edited by

William A. Palmer

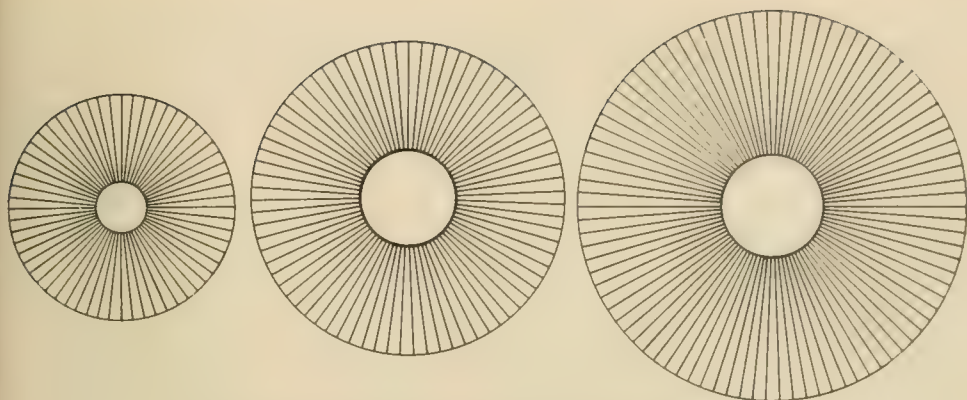
Synchronizing The Silents

THE majority of films made for home showing, if made into talkies, would be of the "newsreel" or post-synchronized type. The sound would be made up of an "offstage" voice giving explanatory remarks about the film along with interludes of appropriate background music. The true talking picture, presenting the sounds and speech of the subjects shown on the screen in perfect synchronization, necessitates special camera equipment and great care in production with such factors as acoustical surroundings and microphone placement competing with exposure and camera technique. The average cine record of vacation travels and other impromptu home films do not permit "lip synchronization" but are improved greatly by an accompanying informal talk which can give information and sidelights concerning the picture. Such films do not have to have split-second synchronization between sound and picture and are satisfactory if the voice comes within five or ten seconds of the ideal point.

Approximate synchronization of a lecture with a completed silent film can be accomplished in several ways. Perhaps the easiest is through the use of a public address unit with which the operator can deliver his prepared talk via microphone and loudspeaker as he watches the pictures on the screen. This requires each performance to be a personal affair with the operator continually on his toes to keep the timing and the nature of his remarks in order. Background music can be played also through the use of a phonograph turntable and records operating through the same public address amplifier.

Another way of synchronizing the silent film is by the use of sound-on-film equipment and a combined print. This, of course, is the ideal and should be the final goal of all amateur filmers who wish to sound their own. It necessitates the use of expensive equipment for both recording and reproducing and an additional copy of the original picture film.

Sound-on-film is the only completely satisfactory method of producing "lip synchronized" pictures, but for those who are primarily interested in the "off-



From left to right, 60 line, 75 line, and 90 line stroboscopes.

stage" voice a third procedure is valuable. It is the use of home recorded phonograph discs which can be synchronized with sufficient accuracy by the method to be described here. This system has the advantage of using equipment less costly for the sound recording than sound-on-film apparatus, as well as using the regular silent projector with no alterations. An additional print of the film does not have to be made and the conventional speed of 16 frames per second can be retained as contrasted to the additional speed of 24 frames per second needed for sound-on-film.

The following is the equipment necessary for home recording of discs for moving picture work involving the recording of voice and the re-recording of music from standard phonograph records:

- 2 Electric motored phonograph turntables (2 speed). (These should be powerful and able to hold a constant speed. The type having a synchronous motor is most desirable.)
- 1 Electro magnetic pick-up for recording, with weights
- 1 Crystal pick-up for reproducing
- 1 Microphone (Carbon or Crystal)
- 1 3 Stage audio amplifier with loudspeaker

If one has an electrical phonograph, he does not need to get all of the above equipment. He may find that one extra turntable, a pick-up, and a microphone are all that are needed. A competent radio service man should be consulted to see whether the pickup is suitable for recording. The crystal pick-up is recommended for reproducing the home recordings, because in addition to its very excellent quality, it is very easy on the records and will not wear them out rapidly. If one owns one of the newer radio-phonograph combinations already equipped with the home recording features, he will be completely equipped with merely the addition of another turntable and the crystal pick-up.

The synchronization of the film with the phonograph turntables is accomplished in a very simple way. Instead of having any mechanical connection between turntable and projector or using special motors, the two units are made to run at a fixed speed as shown by a stroboscope. The stroboscope con-

sists of a neon lamp, obtainable at any electric shop, which is operated off the regular 60 cycle alternating current line. On both the projector and the turntable are fastened discs of white cardboard marked with black radial lines. When the turntable or projector part bearing the disc is viewed by the light of the neon lamp, the lines on the disc are not a blur as with ordinary light but will appear to be stationary or to be moving slowly in one direction or the other. When the lines on the discs appear to be stationary the units are operating at exactly the correct speed. The whole trick of keeping the picture and record in step depends upon watching the stroboscope discs and adjusting the speed of the units so that the lines appear stationary. A stroboscope disc for the phonograph can be purchased at any record shop. If the turntable is equipped with a synchronous motor, one does not have to bother with a stroboscope disc, for it cannot run except at the correct speed. The stroboscope disc for the projector is stuck onto one of the rotating shafts with shellac or celluloid cement, the shaft used depends upon the make of projector. Most projectors have sprockets which move eight frames of film per revolution. On a sprocket shaft of this sort a disc with 60 radii, equally spaced will give a speed of exactly 16 frames per second. For a projector with a ten frame sprocket a disc having 75 radii is required; for twelve frame sprockets, 90 radii are required. (To determine the type of sprocket that your projector has count the number of teeth on one side of the sprocket. This is the number of frames per revolution that the sprocket will move.) Reproduced here are the three discs of 60, 75, and 90 lines respectively these can be cut out and mounted permanently on the sprocket of your projector (trimming the diameter to fit nicely). Incidentally these discs are handy to have on one's projector even if there is no intention of synchronizing sound. The disc gives at a glance a positive check on the speed of the projector. The neon lamp makes a dandy threading light.

Recording Technique

For recording your own discs the Victor pre-grooved home recording blanks are recommended. These give very satisfactory results and are easier to use than aluminum, celluloid and other materials which are often used. They can be obtained in several sizes, 6, 10, and 12 inch diameters. The 12 inch size is recommended even though one does not need all the space on the record, for the quality of the recording on the larger diameter on the outside of the record is considerably better than that at the center. If the discs are recorded and reproduced at the slow speed ($33\frac{1}{3}$ r.p.m.) they will last for approximately ten minutes. The reels can be cut to this length so that there will be one record to one reel. (Note: When purchasing a stroboscope disc for the phonograph turntable be sure to specify which you want, the one for $33\frac{1}{3}$ r.p.m. or for 78 r.p.m.)

The apparatus is set up, the microphone and the turntable with crystal pick up connected into the input of the amplifier, and the recording pick-up on the other turntable connected to the output or loudspeaker end of the amplifier in place of the loudspeaker. Two volume controls should be provided, one for the microphone and one for the turntable.

The recording operation is very simple. A special needle for the home recording blanks is placed in the weighted recording pick-up, the needle placed gently in the outside groove of the record and the turntable started. The record-

ing then proceeds as one talks into the microphone and regulates any background music from the other turntable. It is not necessary for the entire record to be recorded at one time. The recording can be interrupted by lifting the recording pickup off the record. By examining the record grooves one can pick out easily the point where the recording stopped and place the needle at that point for resuming the recording. The volume for speech from the microphone and music from the turntable will have to be determined by experiment. A 200 watt mazda lamp suspended over the recording blank will cause the record to become quite warm and a little more pliable, resulting in a little better recording. After the recording has been made and the record cooled, it may be played back on the turntable with the crystal pick up, the recording pick-up being replaced by the loudspeaker. A special home recording needle must be used as in making the disc.

The talk or lecture which is to accompany the picture should be written out completely, the paragraphs or sentences which are to correspond to certain scenes and sequences indicated by setting them well apart from each other on the typed page. It should be remembered that too much talking is not desirable. There should be a few appropriate remarks about the subject matter shown on the screen with plenty of pauses for the audience to enjoy the picture alone. The pauses can be appropriately filled with music. In general it is best to allow a scene to appear on the screen a few seconds by itself before starting to talk about it.

When the talk is written out, it should be rehearsed with the picture running through the projector for timing. The projector must be run at the proper speed as shown by the stroboscope. When it is ascertained that the talk fits the picture it is timed with a stop watch, and the proper time for the start of each paragraph indicated clearly on the margin of the paper.

When the talk is recorded, it is done without the projector by reference to time cues only. It has been found that this procedure is far more satisfactory than watching the projected picture for cues, for the announcer can keep his eyes on the script constantly and is therefore much less liable to make a slip. The time cues should be given to the announcer by another person by some form of inaudible signal, a flashing light, wave of the hand, etc.

The musical background may be put into the recording in one of two ways. The music may be re-recorded onto the blank without any talk and then the blank can be run again while the talking is recorded over the previous modulation. This system simplifies the timing and recording operations, for one does not have both the music and talk to control at the same time. It does not, however, give as good recordings as those made by recording both music and voice simultaneously. Furthermore, in the first method the music must be recorded at an even low volume, while in the second method the music volume may be increased in the pauses between the voice and decreased while the talk is going on.

After one has made a disc which is timed with a film as shown by the stroboscopes, the one remaining problem is getting the film and the disc started together in projection. This is comparatively simple after one has practiced the manipulation a little. The record is placed on the turntable and started revolving at the correct speed. The projector is then threaded with plenty of

leader and started. The projector is brought to speed immediately by watching the stroboscope disc and then the screen is watched for the opening title or scene where the sound is to start. When this point is reached on the screen, the needle of the pick-up is slid gently into the first groove of the revolving record and the show is on. It may take two or three trials with a new film to find just the right point on the opening scene or title at which the needle should be applied to the record. It will be remembered that the synchronization of this type of film is not a very tricky matter. If the talk comes within five seconds of perfect synchronization, it should be satisfactory. Any talk that depends upon more accurate tie-up of picture and sound should not be attempted by this method.

If the picture should be a little too far ahead or behind of the talk, the difficulty may be remedied while the showing goes on by altering the speed of the projector, speeding it up or slowing it down until proper synchronization is obtained. As the projector speed is increased or decreased from the exact speed of 16 pictures per second, the lines on the stroboscope disc will start to move one way or the other. The true speed can be established again, after correcting synchronization, by adjusting the speed control until the stroboscope lines are again stationary.

Questions and Answers

QUESTION: Can reverse motion scenes be made with an 8mm camera by holding it upside down?

ANSWER: Because 8mm film when finished has a row of perforations on one side only, a scene, made by holding the camera upside down and reversing the scene end for end, will appear on the scene as a mirror image. That is, the objects in the scene will be reversed from left to right. Furthermore the emulsion will be on the opposite side of the film, making it necessary to re-focus the projection lens. Reverse motion in 8mm film is not so successful as with 16mm film.

QUESTION: Can Kodachrome film be duplicated?

ANSWER: Not at the present time in color, although it is probable the service will be established in a few months. There is no theoretical reason why Kodachrome cannot be duplicated satisfactorily. Kodachrome film can be duplicated now in black and white, should such a duplicate be desired.



"Left Ashore"

J. M. Bridges

Advanced Medal Print

■ This picture serves as an excellent example of the value of fully understanding one's tools. It is such knowledge coupled with an active imagination that results in strikingly original pictures such as this. Observe that the success of the whole thing both from the standpoint of composition and graphic values depends on the use of a short focal length lens with respect to the film size. In this case a 35mm. lens (approx. $1\frac{1}{2}$ ") on a Leica. This short focal length coupled with a close camera position brings about the distortion that turns what would otherwise be a prosaic anchor into a dramatic symbol of the sea. At the same time this distortion "makes" the composition by carrying the near parts of the anchor high into the upper left of the picture space and by dwarfing the figure in relation to the anchor. Dramatic values are additionally strengthened by the brilliance of the lighting, by fine rendition of textures, and by the strong contrast with the dark sky. This last desirable condition we should point out is brought about by the use of the proper filter, in this case the "A" which is red in color. We should also point out that this shot was undoubtedly made from

(Continued on page 560)

**Second Award
Advanced Class**



"Fruits of the Season"

Christine B. Fletcher

■ We can think of no better advice for those interested in Still Life than that they make a careful study of Mrs. Fletcher's excellent compositions. The essence of Still Life lies in a superlative arrangement of form, and in her best things (of which this is one) Mrs. Fletcher lifts such arrangement to a high plane. Analysis of the composition by the printed word alone is of little use, for anyone can see that the arrangement is based upon an extremely simple basic plan. Each individual must cultivate an appreciation, a sensitivity, to the subtle differences that determine a good or bad composition, and one of the best ways to do this is to carefully study good work in his field. Incidentally we might add that it is better for the photographer (especially the beginning photographer) to study photographs rather than paintings. The painter's composition is often based upon, or re-enforced by color contrasts, with the result that in black and white reproduction the emphasis is often altered or weakened so that the true effect of the composition is not fully apparent. Notice also that photographic still life depends greatly upon a superb rendition of textures, a factor which cannot be present in painting.

Data: 5" x 7" Century View, with 4" x 5" back; 8" B. & L. Rapid Rectilinear Centar; 25 secs. at F:22, by a combination of daylight and 2 Mazda lights in Kodaflector totaling 250 W; Defender Portrait film in M. Q.; Dassonville Charcoal Black B, in M. Q.

**Third Award
Advanced Class**

■ Surely all will agree that this peculiar combination of roadway, bridge, and buildings offer unusual pictorial possibilities and that Mr. Korth has been decidedly right in choosing to photograph it with a back lighting. It is this lighting which causes the bridge to stand out from the surrounding subject matter and dominate the scene. Further it serves to create the bright area just beyond the bridge which is valuable in carrying the eye into the picture. As we see it there is only one uncertainty about the composition. This is brought about by the fact that as the eye moves into the picture and crosses the bridge it is then offered a choice of directions. It may move either sharply to the right or diagonally to the left. Such a condition is not necessarily bad in itself but in such cases the choice should not be between equal values, one avenue of movement should dominate. The difficulty then is that the two directions of movement are too nearly equal in their pulling power. This is brought about, of course by the strength of the highlight area in the upper right. No satisfactory remedy presents itself. Trimming is out of the question, and we do not believe that any control printing process would convincingly eliminate the highlight in the upper right without destroying the fine photographic quality that is too valuable a part of the picture to be sacrificed.

Data: 9 x 12 cm. Zeiss Ikon Ideal; 1 P.M. bright day in February; 1/50th sec., camera held in hand; S.S. Pan., in Metol Ppro; enlargement on Agfa Brovira.



"The Bridge"

Fred G. Korth

**Fourth Award
Advanced Class**

■ Mr. Timmons has achieved a technically excellent rendering of this head, while the natural charm and attractive expression of his lovely little model must surely appeal to all. The spot formed by the faucet just to the left of the face is undoubtedly a distraction. It can be removed by proper retouching on negative or print or both, but the best remedy would have been to place the model so that her head obscured the faucet. We would trim about an inch and one half from the top of the 9¼" x 10" print for three reasons. First, it eliminates the distraction of the knobs at the top of the print. Second, it raises the eyes in the picture space which are now rather low, and too near the center for our taste. Third, we achieve more pleasing print proportions. It may be that Mr. Timmons felt that the knobs at the top of the print were required to clearly show that the young lady was in her bath. We cannot see that this is so, and if one feels that the picture needs pointing up in this direction it would be far better to use greater depth of focus so that the idea could be conveyed by the texture of the surrounding tile.

Data: 9 x 12 cm. Miroflex; F:4.5 Heliar; ¼ sec. at F:9, on Defender H. G. S. film, in D72; by 4 photofloods; Defender Velour Black in D-72.



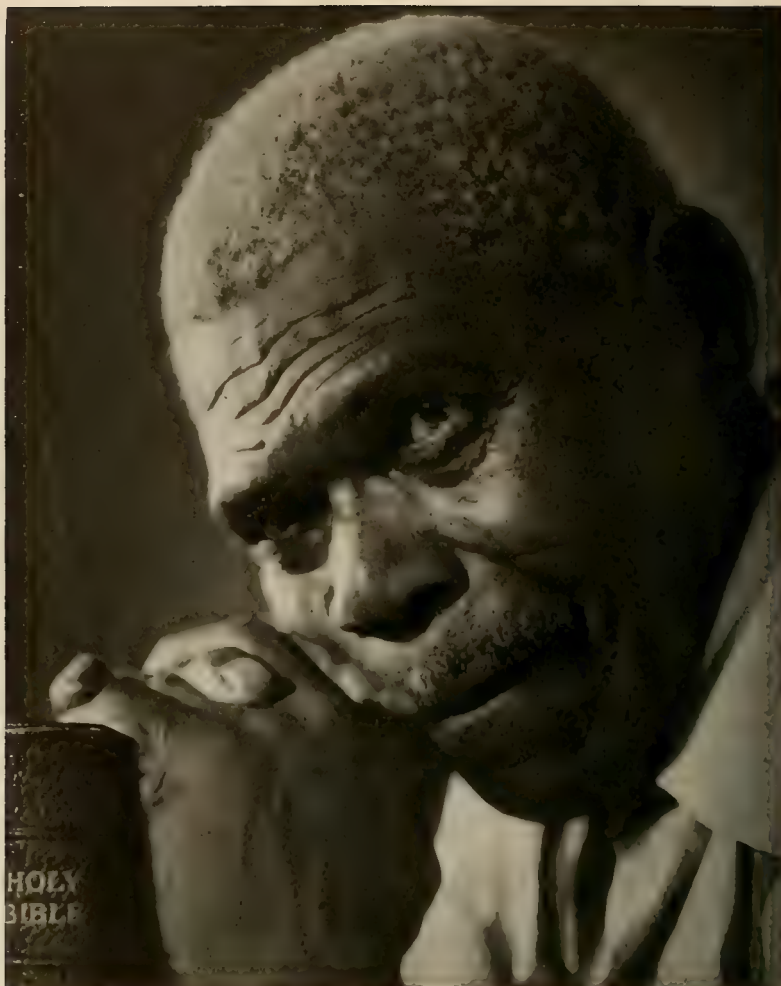
**"Wash My Back"
Dever Timmons**



**"Caballero"
K. Wakasa**

■ Mr. Wakasa has succeeded in catching an extremely lively expression that is very much in keeping with the happy-go-lucky attitude that we commonly associate with this type of character. Spacing is well carried out, the fact that the head is placed to the left in the picture space being fully justified by directing the eyes to the right. Some may feel that the lighting on the face is a trifle spotty, but the fact remains that this does contribute to the liveliness of the whole. The hand is very well managed, being shown at a most advantageous angle and with just the right degree of prominence. The narrow slit between the shoulder and the hat, through which the light appears to reach the face rather calls attention to itself. It should have been possible to tilt the hat downward in the back so that its farther rim would cut the shoulder without interrupting the course of the light. If this could be done it would improve the picture.

Data: 8 x 10" Studio camera; with 5 x 7" back; 16" Dallmeyer; ½ sec. at F:5.6, on E. K. S. S. Pan., in A.B.C. Pyro; one spot, and 3000 W flood; E. K. Opal T in D-64B.



"Reverence"

Harry E. Goodwin

Amateur Medal Print

■ Mr. Goodwin has attempted a most ambitious theme with admirable economy of subject matter. The common failure among photographers when dealing with such themes is to resort to fantastic attitudes, exaggerated expressions, and elaborate trappings, with the result that the picture is wholly unconvincing and often even ludicrous.

Observe how successfully and how deftly Mr. Goodwin presents his idea, with a natural expression that carries the conviction of sincerity, plus the clever introduction of the Bible in the lower left. The importance of judicious economy of subject matter, of simplicity in picture making, cannot be stressed too often and this print offers further argument as to the desirability of heeding that endlessly reiterated admonition. The picture has one technical short-coming in that the model's right eye is almost totally lost in shadow. Just a little light in there would help matters considerably.

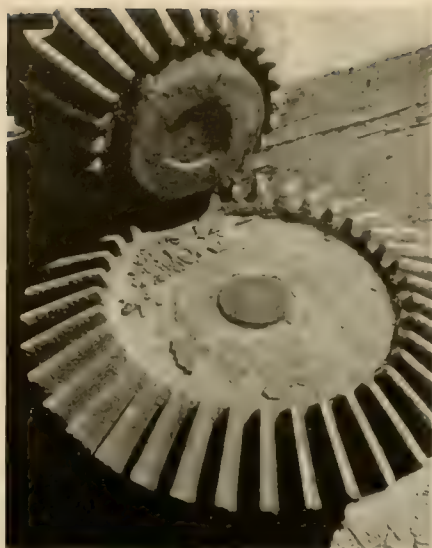
This is the second time Mr. Goodwin has received a first award. Consequently he receives a deserved promotion to the Advanced Class.

Data: 4 x 5" Speed Graphic; 5¼" Carl Zeiss; ½ sec. at F:5.6 on Defender X.F. Pan., in Defender M. Q. Borax; 4000 W Mazda light; E. K. P. M. C. No. 12, in D-72.

**Second Award
Amateur Class**

■ The success of any picture of this type depends primarily upon two essential factors. First, the best of technique, resulting in a superlative rendition of textures. Second, a composition that is interesting as such, by which we mean that it should contain to some degree at least the elements, the abstract quality, of good design. The technical perfection of this print will be evident to every observer. The composition is based upon the repetition of the circular forms of the gears as contrasted with the great variety of sharp diagonals formed by the teeth of the gears. It seems to us on the whole to be an adequate composition but the upper and lower right corners bother somewhat as weak areas. Since these weak parts fall in the corners we believe that a black border would do no harm.

Data: Voigtlander camera, F:4.5 lens; $\frac{1}{2}$ sec. at F:22, on Defender X.F. Pan.; 12 mins. in D-7; 11 A. M. on bright day; bromide print in Amidol.



"Gears"
A. D. Sweet



"Walnut Picker"
Ralph H. Anderson

**Third Award
Amateur Class**

■ Mr. Anderson has performed a rather difficult technical feat in holding good gradation over a very long scale of values. The only place that is not fully satisfying in this respect is the model's right eye that is partially lost in shadow. To our eye this picture betrays a trace of camera consciousness and a slight uncertainty in the photographer's mind as to just what he wished to do with his subject. In other words the picture seems to fall somewhere between a straight portrait or character study, and a genre, or action picture. The inclusion of the arm with the hand holding the walnuts plus the title suggests that action rather than portraiture was the objective, in which case it would seem advisable to arrange matters so that the action was more evident, with camera consciousness eliminated by having the model intent on her work, instead of looking at the camera. If straight portraiture was the intention the hand and arm become a shade too

strong, and we would prefer the picture trimmed from the bottom until the hand is eliminated.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ Graflex; 6" Bausch & Lomb; $\frac{1}{25}$ th sec. at F:11, on Defender X.F. Pan., in DK-76; bromide enlargement.

**Fourth Award
Amateur Class**



**"On Ship Constellation"
Morgan W. Wickersham**

■ This head is very nicely rendered, the action is splendidly shown, and the expression is very much in keeping with the idea of the picture. The print would in all probability have placed higher in the judging if it were not for the decidedly disturbing background. There are four or five elements in the background that are completely unrelated to the picture itself or to each other and this is a fault which it is difficult for a jury to tolerate. If the photographer will be patient and wait for the light to change so that he can shoot from a different angle, or if he will be energetic and scout about to find some material such as a piece of canvas that may be made to serve as a background, problems such as this can almost always be solved. The small film size makes negative retouching impossible, but considerable improvement could be obtained by the use of chemical retouching on the print by means of Etchadine, or Farmers reducer.

Data: Leica; 35 mm. lens; 1/100 sec. at F:6.3, on DuPont Superior; 30 mins. in para-phenylene-diamine; Defender DL, in Anidol.

**Fifth Award
Amateur Class**

■ In this picture Mr. Oliver is obviously interested in bringing out the qualities of determination and physical strength that are so essential to the athlete. The treatment which he has adopted, that of placing his model in a strong outdoor light and emphasizing contours and textures seems to us to be the right way to reach his objective. Ordinarily we would object to such deeply shadowed eyes in a portrait. However in a picture such as this where the subject appears to be presented as a symbol rather than as an individual personality, such an objection hardly holds. At least we feel that all will agree that such treatment does tend to subordinate the individual personality and make it possible to invest it with something of an abstract symbolic character. It is unfortunate that the cast shadow of the head comes to a point just at the edge of the print, for this calls undue attention to the shadow as such.



**"Portrait of a Swimmer"
Don Kirby Oliver**

Data: 5 x 7" Eastman View; 12½" Bausch & Lomb Rapid Rectilinear using rear element only working at 25"; ½ sec. at F:16, on E. K. Panatomic, in DK-76, with K-2 filter; Defender Velour Black T in M.Q.

Monthly Competition

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class: Fred G. Korth, for the Fort Dearborn Camera Club; K. Wakasa, for the Japanese Camera Club; Christine B. Fletcher, for the Photographic Society of San Francisco; and J. M. Bridges, for the Telephone Camera Club of Manhattan.

The following won points for their clubs in the Amateur Class: Don Kirby Oliver, for the California Camera Club; Allen D. Sweet, for the Photographic Society of San Francisco; Harry E. Goodwin and Morgan W. Wickersham, for the Washington Pictorialists.

Contributing Clubs

Baltimore Camera Club	Japanese Camera Club (San Francisco)
Bessemer Park Camera Club (Chicago, Ill.)	Los Angeles Camera Club
Boulder Lens Club (Colo.)	Miniature Camera Club of New York
California Camera Club	Norfolk Photographic Club, (Va.)
Camera Club of Ottawa	Photographic Society of San Francisco
Fort Dearborn Camera Club	San Jose Camera Club (Calif.)
Golden Gate Miniature Camera Club (San Francisco, Calif.)	Schenectady Photographic Society
Hamilton Camera Club (Canada)	Telephone Camera Club of Manhattan
	Utica Camera Club
	Washington (D.C.) Pictorialists

Standing of Clubs

Large Clubs Advanced Class

Los Angeles Camera Club	31
Fort Dearborn Camera Club	28
Camera Club of Ottawa	19
Photographic Society of San Francisco	16
Pictorial Photographers of America	14
Montreal Camera Club	10
Telephone Camera Club of Manhattan....	8
Miniature Camera Club of New York	7
American Society of Cinematographers..	1
Toronto Camera Club	1

Small Clubs Advanced Class

Erie Camera Club	5
Monterey Peninsula Camera Club	4
Japanese Camera Club	3
Baltimore Camera Club	2
Camera Art Circle	2
East Bay Camera Club	1

Large Clubs Amateur Class

Photographic Society of San Francisco	40
Golden Gate Miniature Camera Club	13
Schenectady Photographic Society	10
California Camera Club	9
Miniature Camera Club of New York	5
Los Angeles Camera Club	3
Camera Club of Ottawa	1

Small Clubs Amateur Class

Washington Pictorialists	18
Hamilton Camera Club	11
San Jose Camera Club	8
Camera Club of Richmond	5
Cleveland Y.M.C.A. Camera Club	3
Whittier Camera Club	3
Monterey Peninsula Camera Club	2

One Month To Go

For the second time the club scoring feature of these competitions is drawing close to a decision—only one more judging remains before the winners of the four cups will be determined. The Los Angeles Camera Club and the Fort Dearborn Camera Club, in the Large Clubs-Advanced Class group have been running neck and neck all year, and the final judging will determine the winner. In the Small Clubs-Advanced Class group anyone of several clubs may win by coming through with an award in the final competition for the year. The Photographic Society of San Francisco seems to have clinched first place in the Large Clubs-Amateur Class group and by taking two awards this month the Washington Pictorialists have obtained quite a lead in the Amateur Class for Small Clubs, although the Hamilton Camera Club is right on their heels and by no means out of the running.

New Scoring Starts With Dec. 5th Judging

Club scoring for 1936 begins with the judging which takes place Dec. 5, 1935. A

number of clubs have written stating that they are holding their fire in order to get a good start in 1936. The most important factor in success in the club scoring is to send in a goodly number of prints each month. For instance, the Photographic Society of San Francisco has been quite successful but no individual in that club has succeeded in winning more than one award during the past year. **Camera Craft** is grateful for the fine support which both club members and non-club members have given these competitions during the past year. They have been far more popular than ever before, and there is every indication that that popularity will continue to grow.

Advanced Competitors

Charles G. Agnell, Chicago, Ill.
Edward Alenius, A.R.P.S., Jamaica, N. Y.
Edward Bafford, Baltimore, Md.
Miss Edna R. Bennett, West Los Angeles, Calif.
E. W. Blew, Whittier, Calif.
*J. M. Bridges, Brooklyn, N. Y.
Dorothy Calkins, Los Angeles, Calif.
Fred E. Crum, Spring Valley, N. Y.
John Davidson, Bryan, Ohio
M. Desai, Bombay, India
Fred M. Doudna, Washington, D. C.
*Christine B. Fletcher, San Francisco, Calif.
Arnold G. Harms, Chicago, Ill.
W. H. Hegeman, Waukon, Iowa

V. E. Johnson, Chicago, Ill.
Stanley Jordan, San Francisco, Calif.
G. H. Kampe, Chicago, Ill.
*Fred C. Korth, Chicago, Ill.
William T. Lyon, Harvey, Ill.
M. Arthur Robinson, Honolulu, T. H.
A. W. Servatius, Utica, N. Y.
R. Owen Shrader, Pasadena, Calif.
Werner Stoy, Los Angeles, Calif.
*Dr. Max Thorek, F.R.P.S., Chicago, Ill.
*Dever Timmons, Coshocton, Ohio
*K. Wakasa, San Francisco, Calif.
Claude J. Williams, Los Angeles, Calif.
*Denotes prize winners.

Amateur Competitors

Arthur W. Ambler, New York, N. Y.
*Ralph H. Anderson, Yosemite National Park, Calif.
Herbert Antoine, San Francisco, Calif.
Barton Bachmann, Redlands, Calif.
E. G. Baker, Hamilton, Canada
A. M. Barruch, Hamilton, Canada
F. M. Beckett, San Jose, Calif.
Dale Martin Bender, Milwaukee, Wisc.
M. S. Benedict, Montpelier, Idaho
Dwight Bentel, San Jose, Calif.
Arthur T. Brice, Jr., San Francisco, Calif.
Lester A. Brubaker, San Jose, Calif.
Robert N. Bushman, Schenectady, N. Y.
Roland Calder, San Francisco, Calif.
L. Charles Smith, Washington, D. C.
Henry O. Cook, Chicago, Ill.
Dr. James A. Cutting, Agnew, Calif.
Leonard Davis, Hamilton, Canada
Martin J. DeBella, San Jose, Calif.
Robert Desme, Brooklyn, N. Y.
Luis Dorman, Pasadena, Calif.
David Falconer, Vancouver, B. C., Canada
Edward Flutot, Whittier, Calif.
Mortimer Friedman, New York, N. Y.
Nat Gaer, Brooklyn, N. Y.
E. L. Gockeler, Saranac Lake, N. Y.
*Harry E. Goodwin, Washington, D. C.
Alden C. Grant, San Jose, Calif.
Robert K. Graul, Alton, Ill.
R. Grey, Burbank, Calif.
Ben Haber, Brooklyn, N. Y.
Rex Hardy, Jr., Stanford University, Calif.
T. H. Hawkins, Ottawa, Canada
Hugh Hazelrigg, Evansville, Ind.
Helen Heaton, Rifle, Colo.
Johanna E. Heim, San Francisco, Calif.
Ernest F. Henry, Washington, D. C.
J. W. Hubbard, Shafter, Calif.
V. B. Hulme, Hamilton, Canada
Delbert E. Jack, Berkeley, Calif.
L. S. James, Boulder, Colo.

D. Jamieson, Hamilton, Canada
Ruth Jorgensen, Livermore, Calif.
S. A. Kaleikan, Bombay, India
Ernest W. Kestner, Schenectady, N. Y.
Lee M. Klinefelter, Norfolk, Va.
Frank Liuni, New York, N. Y.
Eldredge Looney, Omaha, Nebr.
Louis Luh, Washington, D. C.
Christopher Magee, Alder Creek, N. Y.
Harold M. May, Buffalo, N. Y.
Roy Mingins, San Francisco, Calif.
E. A. Murray, Sacramento, Calif.
George R. Myers, Lincoln, Nebr.
William Nakahara, San Francisco, Calif.
Paul Elov Norine, Denver, Colo.
F. A. Northrup, Greensburg, Kansas
*Don Kirby Oliver, San Francisco, Calif.
G. S. Palmer, Ramsay Arm, Canada
F. Owen Pearce, Oakland, Calif.
Eutrope Peller, San Jose, Calif.
A. W. Prasse, St. Louis, Mo.
Frank X. Reilly, Pottsville, Pa.
F. L. Rogers, San Francisco, Calif.
H. H. Schoenlank, Chicago, Ill.
Dr. Will G. Sheffer, San Jose, Calif.
H. E. Sheffield, Cleveland, Ohio
J. P. Skillen, Hamilton, Canada
E. S. Spaulding, Chicago, Ill.
Dr. Robert I. Stirton, Los Angeles, Calif.
*Allen D. Sweet, San Francisco, Calif.
Henry K. Tanaka, San Francisco, Calif.
Lee Townsend, San Francisco, Calif.
J. Oliver Tucker, Burlingame, Calif.
A. H. Tweedie, Hamilton, Canada
D. W. Van Devanter, Gallup, N. M.
John N. Wagner, Chicago, Ill.
Paul W. Wall, Chicago, Ill.
H. E. West, Washington, D. C.
*Morgan W. Wickersham, Washington, D. C.
Dr. Michael Wishengrad, New York, N. Y.
*Denotes prize winners.

(Continued from Page 553)

a very low camera angle, which working in conjunction with the short focal length of the lens gave additional height to the anchor. Observe that had the photographer failed to appreciate the necessity of employing any of the several factors which combine to produce this result, the picture would have been a failure. A careful study of this fine shot should do much to impress one with the importance of thinking before shooting.

Data: Leica; 35mm. F:3.5 lens; 1/20th sec. at F:6.3; E. K. S. S. Pan.; print on Haloid Projecto.

Photographic Digest

Dr. H. D'Arcy Power, F. R. P. S.

The London International Exposition

The London International Exhibitions

I have just been up to England's metropolis to report its two annual photographic shows; the London Salon, purely pictorial, and the Royal Photographic Society's attempt at everything. It is the last of many visits of this kind, starting as far back as 1904 wherein it has been possible to gauge the steady progress of technical photography and the much more erratic advance of the pictorial section by a critical examination of the contents of these annual displays. It is the critic's duty to be impersonal in these matters and have no regard to nationality or reputation. Out of offerings that run into the thousands the Royal Photographic Society exhibits 1282 exclusive of trade section, and of these 226 are pictorial. The London Salon, purely pictorial, hangs 411 frames. It is obvious that these 637 works cannot be specifically commended or condemned, nor would the criticisms be of any value to readers who will never see the objects. After three days continuous work I feel justified in making some generalizations, thus that the appreciation and search for beauty, and its pictorial realization shows a steady advance, even over the works hung last year. There is less of the ugly, grotesque or commonplace, and the freak designs are practically gone. There are less and less efforts to escape the canons justified by the practice of the great artists throughout the ages. The general level of the exhibits, both in design and execution is very high, though here and there things have slipped past when the selecting committee were very tired and sleepy. However, progress is not marked by the general average but by the things that exceed it, and these are not so many. My way of forming a judgement is to walk slowly round the rooms at a distance where the numbers are visible but not the signatures or recognition marks. The numbers of those exhibits that attracted me as high above the rest were written down and the works

carefully studied on a second and third round of the whole, which sometimes added a little to this first choice. Only when this was done was reference made to the catalogue to identify the author, and escape any prejudice pro or con that might unconsciously affect the judgement of the work. In this way out of the 226 Royal Photographic Society's exhibits there were noted:

No. 59 "It is interesting," by Zoltan Kassai.

No. 63 "Flirtation," Erno Vadas.

No. 67 "A Castle of Romance, Segovia," Alex. Keighley, Hon. F.R.P.S.

No. 74 "Suspense," Dr. Max Thorek, F.R.P.S.

No. 128 "The Cottage in the Grove," Alex. Keighley, Hon. F.R.P.S.

No. 130 "Giant Forest," by Merwin Eberle.

No. 136 "Flight," by Claude Shillabeer, F.R.P.S.

No. 142 "Bebedor Vasco," by J. Ortis Echague, F.R.P.S.

"Pearl Hay," by R. N. Speaight, F.R.P.S.

No. 178 "Natures Garden," by C. H. Oakden.

No. 202 "An Essex Mill," by Murray Barford, F.R.P.S.

No. 201 "The Lassie," Marcus Adams, F.R.P.S.

No. 220 "The Wisdom of Years," Dr. Julian Smith, F.R.P.S.

No. 137 "W. B. Yeates," Miss Violet Keene.

Of this little group I am afraid that No. 63 "Pussies flirtation" is more good luck than design, but it is too delightful to pass over. (See cover Aug. C. C.—Ed.)

Colour work

Despite all the puffing and exaggeration, and notwithstanding that the Finlay film gives delightful effects within a limited field, I see no real advance towards the goal of color photography replacing paint in the field of art. My reasons for this conviction I have given elsewhere,

and only where personal control comes into play, as in Tricolor-carbro, can I see anything to satisfy my color sense.

The Science Section, and the Transparencies

Space limitations forbid me attempting a detailed report on the many interesting, and, in the case of the color transparencies and stereoscopic slides, beautiful things exhibited.

London Salon of Photography

Twenty-six years ago a section of camera men awoke to the realization that art (The expression of emotion) had a place in the possibilities of photography, and that Art was the thing that they were fundamentally interested in. To this was added the corollary that art expresses the artist as well as the subject and therefore must be subject to his control of the medium. This was anathema to the doctrinaire school of "pure photography" that then dominated the R. P. S. and other centres of photographic activity. A schism followed; the Linked Ring was formed in London, and a similar group in New York under the leadership of Stieglitz, Steichen and others. In London these men founded the London Salon of Photography that now is holding its twenty-sixth annual exhibition. Since then the issues have been largely confused; the old school damned Gum-bichromate and Bromoil because it was controllable but accepted Carbon printing which was also so. Today gum has a recognised place amongst professionals, and judging from the number exhibited in the exhibitions I am here reporting is almost extinct amongst the artists. The one-time rival shows overcrowd their walls with the same type of pictures differing only in the greater conservatism of the older institution, as for example the small number of very modest nudes compared with the Salons 34 exhibits of all kinds of undressed ladies, from anatomical studies to . . . ?

Now leaving aside the nudes, what are the exhibits that hold the attention at a full viewing distance and maintain it on closer inspection; the pictures we would give a willing place to on our walls, or at least in that special album of things

of which we do not tire? Here is my short list of 15 out of a total of 411:

No. 7 "Glasstilleben," A most delightful rendering of a glass plate, almost a simple line drawing, but also beautiful in its rendering of texture; by Karl Kletz

No. 15 "The Thinker," by Bertram Park, A striking male nude, reminiscent of Rodin's well known statue of the same name.

No. 19 "Dawn," by Chaloner Woods.

No. 31 "The Cobbler's Stall," by Alex. Keighley. A very interesting Genre.

No. 83 "Steeton Mill," also by Alex. Keighley. A landscape bathed in a wonderful atmosphere.

No. 102 "Bimbo che gioca alle Bocce," by I. Bertoglio. Child study.

No. 118 "The Fisherman," by Marietta Ralli, shows excellent composition and values.

No. 146 "Translucence," by W. C. West. A wonderful picture of ice transformed snow on the black branches of an interestingly formed tree.

No. 152 "A la Cita," by Mora Carbonell. The Road to the city.

No. 178 "Il Pleut," by L. Misonne. A wonderfully charming picture, rain and mist in a city. Misonne is inexhaustible.

No. 198 "Viejo Txistulari," by J. Ortiz Echague holds the attention as all his works do.

Nos. 211 and 242 "Mieke," and "A Jeering Laugh," both by M. F. J. Coppens, will hold the attention of all who are interested in the portraiture of expression. It is great portraiture, though the second is misnamed.

No. 365 "Portrait," by Arthur F. Kales, maintains the reputation he won so many years ago.

No. 391 "Clouds over the Dunes," by Bernard J. Puig, is described by its name.

There remains for consideration the thirty-four nudes, a small army that calls for justification. Are they all there for the sake of their beauty of line, their wonder of texture and the fairy play of light and shade that the planes of the surface can so well reflect? We look for these things in vain. Are they completing parts of a composition where their presence would add meaning and charm to a pictorial whole? but neither are these to be found.

Bodies chopped off above or below or both, such as form the stock illustrations of Life classes, anatomical photo-sketches of the surface of the body (of course including the breasts) do not constitute works of art by reason of their feminine origin, which often seems to be their sole *raison d'être*.

To sum this part of the exhibition up is difficult, the criticisms I am making are not based on any quarrel with the cult of nakedness now called nudism; it is good for the body and in the end good for the mind. Familiarity with the sight of the body is not the highway to eroticism but rather the reverse. It is not desirable that photographic art should make it so; there is reason to think that some of the very good things exhibited were so intended. If so it is not good for photography as a fine art. Secondly, works of art must be complete in themselves and not mere studies to some end, therefore I exclude the anatomical study of torsos, surfaces, etc., however good they may be in the lesser role, although different, I include them in the third list with the things of minor worth. There remain seven exhibits that are worthy of their authors and the Salon. Their numbers and titles follow:

No. 15 "The Thinker," by Bertram Park. Already referred to.

No. 19 "Dawn," by Chaloner Woods. A splendid figure.

Nos. 23 and 54 "Canyon Gateway," and "Spotlight," by Forman Hanna, the beautiful but expressionless figure he has made so familiar.

No. 92 "Yellow Sands," by Chaloner Woods. A semi nude but very good.

No. 159 "Hauteur," by Dorothy Wilding. A splendid figure, but unpleasant face.

No. 200 "Youthful Charm," by Bertram Park, truly expressed by its title.

No. 262 "Lois," by Rosalind Maingot.

No. 277 "The Awakening," by Dorothy Wilding.

Numbers of pictures that I think should not have been hung: 4, 20, 45, 113, 133, 217, 228, 234, 332, 361. The title and execution of 228 "The Amazon" gives the impression of the selecting committee having been asleep or having a joke.

Incomplete pictures or of minor worth: 49, 139, 145, 195, 250, 257, 273, 279, 320, 369.

I have refrained from giving the names of the pictures and authors of lists 2 and 3, not wishing to hurt their feelings or their models, but the catalogue can be obtained by writing to the Hon. Secretary of the London Salon of Photography: E. J. Mortimer 5a. Pall Mall East, London, S.W.1.

Club Notes

Forthcoming Exhibitions

■ **Fourth Annual Minneapolis Salon of Photography.** Address R. W. Burnet, Chairman Salon Committee, Minneapolis Camera Club, 2601 Euclid Place, Minneapolis, Minnesota. Closing date November 12th, 1935. Entry fee \$1.00. December 1st to 31st, 1935.

■ **The Metropolitan Salon of Photography.** Sponsored by The Oval Table. Address Mr. Walter Dreicer, 48 West 48th St., New York, N.Y. Closing date November 2, 1935. Entry fee \$1.00, limit four prints. Prints must be mounted. Limited to persons residing within fifty miles of New York City. Dec. 3 to 15, 1935.

■ **Cape of Good Hope International Salon of Photography.** Under the auspices of The Cape Town Photographic Society. Address Hon. Salon Secretary, Richard Dekenah, Esq., P.O. Box 2431, Cape Town, South Africa. Closing date November 19, 1935. Entry fee five shillings, limit 4 prints. January 1936.

■ **Leicester Photographic Society International Exchange.** Address Exhibition Secretary, H. Foscutt, 19 Doncaster Road, Leicester, England. Closing date January 24, 1936. February 24 to March 7, 1936.

■ **Fifteenth International Salon organized by the Belgian Association of Photography and Cinematography.** Address Secretary of the XVth Salon of Belgian Association of Photography and Cinematography. M. Maurice Broquet, 77 rue du Sceptre, Brussels, Belgium. Closing date March 15, 1936. Entry fee 6 belgas, limit four prints. May to October 1936.

■ **9th International Christmas Salon of Photography.** Address Mr. E. Borrenbergen, Dambruggestr. 265, Antwerp, Belgium. Closing date November 15th, 1935. Entry fee 5 Belga. Limit four prints. May be sent unmounted. December 22, 1935, to January 5, 1936.

■ **Third (Second International) Wilmington Salon of Photography.** Sponsored by the Delaware Camera Club. Address E. W. Sautter, P.O. Box 818, Wilmington, Delaware. Closing date December 15, 1935. Entry fee \$1.00. Limit four prints, foreign prints must not be mounted. January 6th to 26th, 1936.

■ **The Seventh International Salon of Photographic Art at Brussels.** Address M. M. Devaivre, 152 rue Markelbach, Brussels, Belgium. Closing date February 25th, 1936. Entry fee 7 Belgas. March 21st to April 5th, 1936.

■ **Fortieth Annual Exhibition of the South London Photographic Society.** Address Hon. Exhibition Secretary, Mr. H. S. Adams, 40 Stockwell Park Road, London, S. W. 9, England. Closing date January 21, 1936. Entry fee 1 shilling per print. February 15 to March 14, 1936.

San Antonio Salon of Pictorial Photography. Under the auspices of the Pictorial Camera Club of San Antonio, Texas. Address The Salon Committee, Pictorial Camera Club, 506 E. Guenther St., San Antonio, Texas. Closing date January 15, 1936. Entry fee \$1.00, limit four prints. February 1 to 15, 1936.

Mardi Gras Exhibition of Photography at New Orleans. Under the auspices of the Miniature Camera Club of Louisiana. Address Miss Victoria Enos, Secretary, Miniature Camera Club of Louisiana, 322 Royal St., New Orleans, La. Closing date February 1, 1936. Entry fee \$1.00, limit four prints. February 21 to 28, 1936.

Annual Photographic Exhibition of the Ilford Photographic Society. Address E. G. Roughton, Hon. Exhibition Secretary, 63 Havering Road Romford, Essex, England. Closing date February 1, 1936. Entry fee 2/6d. March 2 to 7, 1936.

Third Annual Exhibition of Professional Photography. Conducted by the Department of Photographic Technology of Rochester Athenaeum and Mechanics Institute. Address Photographic Exhibit, Rochester Athenaeum and Mechanics Institute, Rochester, New York. Closing date February 15, 1936. Open only to those professionally engaged in photography. March 1 to 15, 1936.

Trainer-Parsons Installs Beautiful Gallery

San Franciscans owe a debt of gratitude to the Trainer-Parsons Optical Co., 228 Post St., San Francisco, Calif., upon the installation of a beautiful little gallery on the mezzanine floor of their premises, which will be devoted to the exhibition of fine photographs. There has long been a real need for a centrally located gallery in downtown San Francisco in which photographs might be exhibited in attractive surroundings. We are happy to say that Trainer-Parsons has spared no expense to provide these ideal conditions. The gallery will accommodate from 50 to 60 16" x 20" mounts. The pictures are shown in specially constructed panels under glass and an excellent indirect lighting system has been installed that throws a nice even light over the whole of the floor space. The gallery is, as we have

said, on the mezzanine floor and is completely isolated from the rest of the establishment so that the prints may be studied at leisure in quiet surroundings. Mr. Roland Calder in charge of the gallery is co-operating with the Photographic Society of San Francisco in the hanging of the Print Interchange Sets which will be received by the Society from the Photographic Society of America. He will also hang some excellent one-man shows arranged for by the P.S.S.F. with a number of America's leading Photographers. Below we give a list of exhibitions already scheduled and ask our local readers to retain this as lack of space prevents our printing it each month. The exhibitions listed under club names are from the Print Interchange.

W. E. Dasonville, Oct. 10-25.

Reading Camera Club-Syracuse Camera

Club, Oct. 25-Nov. 7.

Dr. D. J. Ruzicka-Alfred De Lardi-Anton Bruehl, Nov. 7-29.

Baltimore Camera Club, Nov. 29-Dec. 7.

H. H. Costain-C. J. Crary-Fred Daprich, Dec. 7-28.

Miniature Camera Club of New York, Dec. 28-Jan. 9.

Photographic Society of San Francisco Awards, Jan. 9-24.

Norfolk Photographic Club-Canton Photographic Society, Jan. 24-Feb. 4.

Edwin P. McMurtry-Camera Craft Competition Awards, Feb. 4-21.

Camera Associates of Huntington-Camera Club of Cincinnati, Feb. 21-Mar. 4.

Indianapolis Camera Club, March 9-20.

Hillary Bailey-Thomas O. Sheckell, Mar. 20-April 15.

Camera Pictorialists of Kansas City, April 15-25.

Photographic Section, Pittsburg Academy of Science and Art, April 30-May 9.

San Antonio Camera Club-Aluminum Camera Club, May 22-June 1.

Photographic Society of San Francisco, June 29 (closing date not specified).

The Manitoba Camera Club

The first winter meeting of the Manitoba Camera Club was held on the evening of September 23rd. It was reported that a very successful summer season had just been concluded and an interesting and instructive winter season is looked forward to.

During the summer three major outings and several minor outings took place, and were enjoyed by the members generally.

The Club's winter season, now commencing, will mean more activity. Monthly competitions in both junior and senior sections, lectures and demonstrations, have been arranged.

At the September meeting the new Constitution and By-Laws were adopted, and the program of competitions for the coming season presented to the meeting.

A talk was given by one of the members on "Home Portraiture" and the use of a small room as a studio with simple apparatus, and some extremely pleasing

results were shown which had been obtained by this method.

Camera Craft Traveling Salons

The Camera Craft Traveling Salons are currently on exhibition as follows:

Group I (Second Schedule)

San Jose Camera Club, San Jose, Calif., Oct. 27 to Nov. 3.

Ellensburg Photographic Club, Ellensburg, Wash., Nov. 8 to 14.

Seattle Photographic Society, Seattle, Wash., Nov. 18 to 24.

Spokane Camera Club, Spokane, Wash., Nov. 27 to Dec. 8.

Group II

Toronto Camera Club, Toronto, Canada, Oct. 21 to Nov. 4.

Hart House Camera Club, Toronto, Canada, Nov. 6 to 19.

Regina Camera Club, Regina, Canada, Nov. 24 to Dec. 1.

Group III

South Shore Camera Club, Quincy, Mass., Nov. 1 to 10.

Hartford County Camera Club, Hartford, Conn., Nov. 13 to 15.

Camera Associates of the Boston City Club, Boston, Mass., Nov. 18 to 30.

Group IV

Miniature Camera Club of La., New Orleans, La., Nov. 1 to 8.

Jamestown Camera Club, Jamestown, N. Y., Nov. 13 to 20.

Kodak Camera Club, Rochester, N. Y., Nov. 23 to Dec. 5.

Group V

Portage Camera Club, Akron, Ohio, Oct. 21 to Nov. 3.

Canton Photographic Society, Canton, Ohio, Nov. 6 to 19.

Dayton Photographic Society, Dayton, Ohio, Nov. 21 to 23.

Camera Club of Cincinnati, Cincinnati, Ohio, Nov. 27 to Dec. 10.

Group VI

Erie Camera Club, Erie, Pa., Nov. 15 to 28.

Pittsburgh Academy of Science & Art, Pittsburgh, Pa., Dec. 2 to 4.

Westinghouse Camera Club, Wilkesburg, Pa., Dec. 7 to 20.

Notes and Comments

Kalart Photoflash Synchronizer for Plaibel Cameras

The Kalart Company of New York announces that its Model C photoflash synchronizers can be used with the Makina, Rollop, and Balda cameras (as distributed by Photo Utilities, Inc.) without it being necessary to affix special fittings. Thus, one may walk into any store where Kalart synchronizers are sold and attach the complete unit, ready to shoot, on any of the above mentioned Plaibel cameras.

Peerless Colors

With the holiday season drawing near great numbers of photographers will be coloring Christmas cards, as well as other photographs. It is a good plan to master the coloring technique in advance so that this will not have to be learned when one is rushing to complete his Christmas cards in time. There is nothing difficult about it, and by writing to the Peerless Color Laboratories, Dept. D., Rochester, N. Y., one can obtain a complete set of materials along with full instructions as to how to proceed. Both oil and water colors of excellent quality are supplied.

Film Library

Mogull Bros. Inc., 1944 Boston Road, New York, N. Y., operate one of the largest rental libraries for both sound and silent films in this country. No charge is made for membership, the rental fees are moderate, and a complete catalogue of available films may be obtained by writing to the above address. The Library includes films on almost every conceivable subject. Feature length entertainment films of all kinds, Cartoons, Sports, Travel, Nature, Science, Industry, Sociology, Transportation, History, Biography, World War, and Religion are all represented. Films may also be bought outright, and the firm will advise and co-operate with

schools, colleges, traveling theaters, and other organizations in planning a program or a series of programs.

Mike-Ro-Pake

The above name designates a new opaquing material which the manufacturers state has the advantage of fine grain, great covering power, rapid drying, heat resistant qualities, and which will not crack or peel when the film is bent. These are obviously just the desired qualities in an opaquing substance so the reader is advised to give it a trial. Ask for it at your dealer or write direct to, Mike-Ro-Pake, 115 Franklin St., Johnston, Pa.

Wells Albums

The Wells Specialty Co., Dept. 7, St. Louis, Mo., is offering not only to individuals but to the trade and to photo finishers as well, special albums as advertised in the October issue of this magazine. The two color embossed snapshot albums are especially useful in promoting greater finishing volume, and in holding business against cut price competition. The company also offers the Wells Simplex Albums which contain no leaves but are constructed to take perforated prints. Ten cents in stamps will bring 10 assorted samples and full information.

K.W. Reflex Box Cameras

This camera can be recommended highly to amateurs whose one objection to a reflex camera has been the price-range into which it usually fell. Made by the manufacturers of the well-known Kawee Cameras, the K.W. Reflex box takes $2\frac{1}{4} \times 3\frac{1}{4}$ " roll film and has self-erecting hood of the usual reflex type, containing focusing screen of ground glass, which shows an image of the subject in exact size and in sharp focus.

The all-metal slit shutter is adjustable for speeds of 1/25, 1/50 and 1/100 second, and for brief and long time exposures.

The scales for stops, distance and shutter speeds are conveniently arranged to insure instantaneous manipulation. Its dimensions are $4\frac{7}{8} \times 4\frac{1}{4}$ " and its weight, approximately two pounds.

A model with f 6.3 anastigmat lens sells for \$17.50; a deluxe model, covered in real leather and equipped with level, carrying strap and cable release, is provided with Steinheil Actinar f4.5 anastigmat and iris diaphragm. This model is moderately priced at \$26.50.

The high optical and mechanical qualities of these instruments, coupled with their remarkably low prices, have already evoked an unmistakable interest in the K.W. Reflex Cameras. These are distributed in the United States by Burleigh Brooks, 127 W. 42nd St., New York City, who will be glad to furnish literature on request.

Enlarg-or-Printer

It is hardly possible in the space of a few paragraphs to give an adequate conception of this radical new development in photographic equipment. Consequently readers are advised to write to the Folmer Graflex Corp., Rochester, N. Y. asking for the pamphlet which describes and illustrates this machine most completely.

Suffice it to say that the new Graflex Enlarg-or-Printer is an enlarger, a contact printer and a retouching desk, **all in one**. Its compactibility is recognized when it is learned that the over-all dimensions are only $11\frac{1}{2} \times 13\frac{1}{4} \times 26\frac{3}{8}$ ". The lighting is self-contained, projecting upward to the platen top which is of the automatic printer type. A Photoflood, (in series with a ruby lamp) is automatically operated by the platen; responds to a toggle switch providing a choice of two light intensities for varying requirements.

With the new Enlarg-or-Printer, one can turn out contact prints up to 8×10 " with all the speed characteristics of contact printers. More surprisingly, it will turn out **enlargements** up to 8×10 " just as fast and just as simple as it produces the contact prints.

An accessory Extension Top in a moment changes the outfit over to an 11×14 " instrument. Used in conjunction with a wall easel, giant enlargements limited in



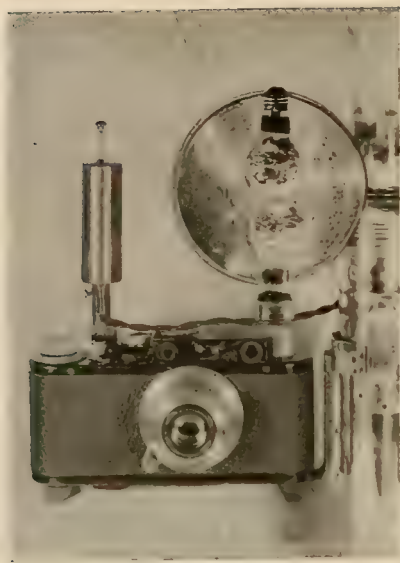
** Enlarg-or-Printer*

size only by the quality of the negative are readily turned out.

Negatives up to $2\frac{1}{4} \times 3\frac{1}{4}$ are accepted for either enlarging or contact printing. Or $2\frac{1}{4} \times 3\frac{1}{4}$ sections of negatives up to 4×5 are as readily used. For those keeping film in strips, suitable adapters are available.

All in all, the new outfit, with its compactness, completeness and convenience establishes a new standard for darkroom equipment. For those denied darkroom opportunities because of limitation of space—or for those about to equip a darkroom—the new Enlarg-or-Printer is made to order.

And, for the worker who already indulges in paper negative or other advanced work, the outfit has the final appeal in that, while setting new standards as an enlarger and contact printer, it is a most efficient retouching desk, handling negatives up to 8×10 "—or up to 11×14 " with the Extension Top.



*New Mendelsohn Speedgun
Attached to Leica*

Mendelsohn Speedgun

The new Speedgun for Leica cameras gives to Leica owners a device for stop-motion photography at speeds of 1/100, 1/200 or 1/500 of a second, utilizing photoflash lamps. New fields to conquer are opened for press photographers; candid shooters and color film workers.

Two photoflash lamps are employed. The second lamp, (which is fired by contact), illuminates the scene for the extra 1/50th of a second it has been found is necessary in order to avoid the heavy concentration of light in about half the negative when only one lamp is used. For photography of individuals or objects which can be "placed" in half the negative frame, a single lamp is adequate, but where groups, interiors or other wide spread masses must be covered, the double lamp action provided for in the Mendelsohn Speedgun for Leicas is essential.

This new Speedgun is a departure from previous Mendelsohn apparatus in that it is non-magnetic and attaches to the camera without special fittings or attachments. The unit consists of a plunger, chassis, battery case and reflector—all in one piece and practically indestructible. The shutter tripping mechanism is sealed in the small cylinder and is self-cocking—always

ready to "go" at a single thrust without winding or setting.

It is expected that a similar unit for Contax and Super-Nettel Cameras will be ready within a brief period. Further information can be obtained by writing to S. Mendelsohn, 202 E. 44th St., New York City.

Speed Table For Leudi Meter

The Mimosa American Corporation, 485 Fifth Ave., New York, N. Y., announces that they have prepared a film speed table covering all popular makes of film, expressly for use with the new Leudi Exposure Meter. The table will be sent free upon application to the above address.

Photographic Lens Company

The Photographic Lens Company, dealers in new and re-conditioned lenses of all standard makes, announce their removal to new quarters at 140 West 42nd St., New York, N. Y. The company's previous address was 152 W. 42nd St.

"Wellcome" Handbook & Diary Out November 15th

Publication of the 1936 edition of that eminently useful little volume the Wellcome Exposure Calculator Handbook and Diary is announced for November 15, 1935. The demand for this is always greater than the supply so place your order early.

Poc-Ket Art Corners Permit Mounting Prints Tight or Loose

One novel feature of Poc-Ket Art Corners is the fact that they are gummed inside, which makes it very easy to mount pictures tight simply by moistening tip of print as the Poc-Ket is slipped on. Thus the prints are held securely.

Some people prefer, however, to have their prints mounted loose so that they can be slipped in and out at will. If the prints are not moistened before they are inserted, they can easily be mounted loose so that they can be taken out and put back in without disturbing the corners.

These small neat Poc-Ket Corners may be had in black, white, gray, gold, brown or red and cost only 10 cents for package of 100.

Samples and complete information regarding Engel Poc-Kets may be obtained

by addressing the makers, Engel Art Corners Manufacturing Company, 4717 N. Clark St., Chicago, Ill.

Zeiss Offers First Camera With Built-In Exposure Meter

Another noteworthy addition to the Zeiss line is seen in the announcement by Zeiss-Ikon and Carl Zeiss, 485 Fifth Avenue, New York City, of the Contaflex, the first twin-lens reflex camera with a lens as fast as F/1.5, and the first camera to incorporate a photo-cell exposure meter. The built-in meter is said to be fully as sensitive as any now on the market.

Although the Contaflex uses 36-exposure Contax film, 1" x 1½", the ground glass gives a vest pocket size image, and has, additionally, the customary detail magnifier. The focusing hood erects to form a large Albada sports finder.

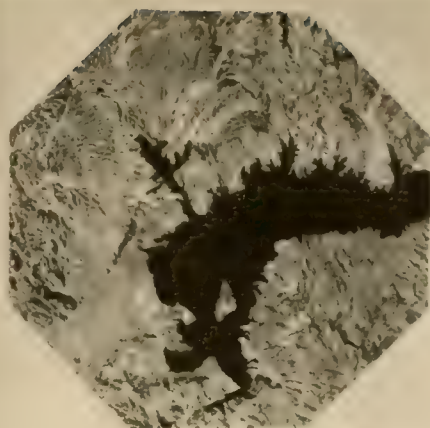
As the name indicates, the Contaflex embodies many Contax features. Among these are automatic film counting and transport, and an all-metal focal plane shutter manipulated by a single dial control and giving speeds from ½ to 1/1000 sec. (incl. T & B), and having a delayed-action release. Film rewind is provided when a single Contax magazine is used.

The Contaflex is smartly finished in leather and chrome-trim. It offers as optical equipment a finder lens, F/2.8 Sonnar 8cm., and 6 quickly interchanged bayonet-lock lenses, each with depth of focus and footage scales engraved. These are: Sonnar F/1.5, 50 mm; Sonnar F/2, 50 mm; Tessar F/2.8, 50 mm; and three telephotos: Sonnar F/2, 85 mm; Triotar F/4, 85 mm; and Sonnar F/4, 135 mm.

Additional equipment for the Contaflex will be announced from time to time. This new camera is expected to be available for delivery late this year. Descriptive literature is not yet ready for distribution.

Remarkable Aerial Photograph

New York (N. Y.)—This is what the famous Boulder Dam and Lake look like to the 10 "eyes" of the Fairchild 10-lens compound aerial camera, largest aerial camera in the world. More than 200 square miles of territory are included in the above.



Fairchild Aerial Surveys

At one click of the shutters an area of approximately 760 square miles can be photographed from an altitude of 30,000 feet above sea level. One "snapshot" recently taken with the giant camera by Fairchild Aerial Surveys of Los Angeles during the survey of Central New Mexico for the Soil Conservation Service of the U. S. Department of Agriculture captured 353 square miles from an altitude of 25,600 feet above sea level.

The compound camera was built by the Fairchild Aerial Camera Corporation specially for the use of Fairchild Aerial Surveys of Los Angeles in making the Rio Grande aerial survey in Central New Mexico. The survey includes 35,000 square miles—the largest aerial survey ever attempted in this country.

The camera weighs 340 pounds loaded with ten rolls of special aero film sufficient for 200 octagonal pictures—like the above—each measuring 32 by 32 inches. The compound camera consists of two Fairchild five-lens cameras mounted on a high precision adjustable mount which alone weighs 85 lbs. The complete camera costs \$26,000.00. All ten shutters are operated simultaneously by a single master electrical control unit. Fairchild Aerial Surveys of Los Angeles recently completed the survey of the Boulder Dam area which also was made for the Soil Conservation Service.

Photography Is On The Air

Herbert C. McKay, Dean of the New York Institute of Photography, is the technical director of the radio program to make a serious attempt to put photography on the air. Radio Station WHN, (1010 on the Dial) of New York has given the necessary station time. The program is broadcast each Thursday, 4:30 to 7:00 P. M., E. S. T.

Thursday evening, August 22nd, students of the New York Institute of Photography were guests of Station WHN. The station provided the lighting equipment and gave the students the privilege of making photographs and motion picture films during the entire program

which included dramatic presentations as well as technical data.

Don Bennett, instructor of motion picture photography at the New York Institute, made a series of motion picture shots covering the entire program. These have been edited into a short reel of instructional film which has been added to the film library of the Institute.

This is only one of the many kinds of practical field work in which students of the Institute participate during their training. Full information concerning the activities and courses of the Institute may be obtained by addressing the New York Institute of Photography, 10 West 33rd Street, New York City.

Our Book Shelves

U. S. Camera. Edited by T. J. Maloney. Published by William Morrow & Co., of New York. 9x12", spiral bound, \$2.75.

It may truly be said that the publication of this volume marks the "coming of age" of American Photography. Here is a volume intelligently edited, attractively presented, and splendidly made from the technical point of view; a volume of which photographers as a whole may well be proud. The book contains 200 black and white reproductions of which approximately 190 are full page size, plus 13 examples of natural color photography. The pictures, aside from the color pages which are distributed throughout the book, are grouped under five headings. Illustration, Portraiture, Pictorial, Miniature, and Scientific-Aerial News.

The most note-worthy of the color pages are the frontispiece by Edward Steichen, the two examples by Bruehl-Bourges, and the charming, brilliantly colored child picture by Nickolas Muray. These pictures represent the peak of achievement in the field. It is evident that both photographer and engraver are steadily increasing their skill within the limitations of present processes, and that when the ideal color process arrives, allowing for more latitude of expression, these men will be ready for it.

At present the most obvious deficiency lies in the difficulty of obtaining form, texture, and color in the deep shadows.

The Advertising Illustration section is easily the strongest in the book. It should be noted that the leaders in this type of work are contributing a vitality, an imaginative quality, and an artistic understanding that is not equaled in any other branch of photography. Admittedly they are somewhat inhibited by the fact that their pictures are made for commercial purposes, but not nearly so much as one would imagine. These photographs stand up simply as pictures, and whatever their commercial purpose may have been it does not thrust itself upon the observer. Pictures of particular significance in this group are those by Steichen, Rittase, Doolittle, Shrader, Weston Munkacsí, Lazarnick, Browning, Korling, Connell, Agha, and Percy. It becomes quite evident as one proceeds through the volume that there is no strict line of demarcation between groups and many pictures would fit one category just as well as another.

The Portrait section does not fully maintain the high standard of the previous group but it should be observed that if the several fine portraits in the Illustrative section had been placed here the difference

would not be nearly so evident. Arnold Genthe contributes an unusually powerful portrait of an old negro woman, Henry Waxman's "Self Portrait" is the cleverest thing of this kind we have seen for some time, and the pictures by C. K. Eaton, George Platt Lynes, Leon De Vos, and Fred P. Peel are also worthy of mention. The Pictorial section is definitely the weakest part of the book. There is almost nothing from the Romantic School, and it would be easy to name a number of outstanding workers who might well have found a place here. This is the only respect in which the book does not adequately represent American Photography as a whole and it is to be hoped that this section will be made more fully representative in future editions. To the writer the most attractive pictures in this group were those by Charles E. Kerlee, William M.

Strong, Alfred D. Hadel, (this is tops), Helen T. Farrell, George H. Phillips, Bernhard Benson, Brett Weston, and A. A. Bodine. The Minicams definitely earn their place in the sun by contributing a most interesting group. Outstanding are the pictures by Remie Lohse and Dorothea Lange, with Robert Disrali's fine shot of a Clown, and Dudley Lee's amusing series entitled "Fannies" also worthy of attention. Space prohibits any discussion of the Scientific section but we cannot close this without mention of the two remarkable Press photographs of Police action during a riot in Denver, and the waterfront Strike in San Francisco. Here is realism that is possible only through the camera.

We hope we have said enough to cause each reader to place this book at the top of their "must" list.

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(Continued on next page)

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Ansel Adams

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A Photographic Monthly

Contents Volume XLII December 1935 Number 12

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Subscription Price

Domestic	\$2.50
Foreign	3.00
Canada	3.10

Entered at the Postoffice in San Francisco as Second-Class Matter
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Expirations—Subscriptions to Camera Craft are discontinued on date of expiration. Your wrapper address shows your expiration date. ¶**Renewing**—In renewing a subscription, do not fail to say that it is a renewal. ¶**New Address**—In notifying us of a change of address, give both the old and new address.

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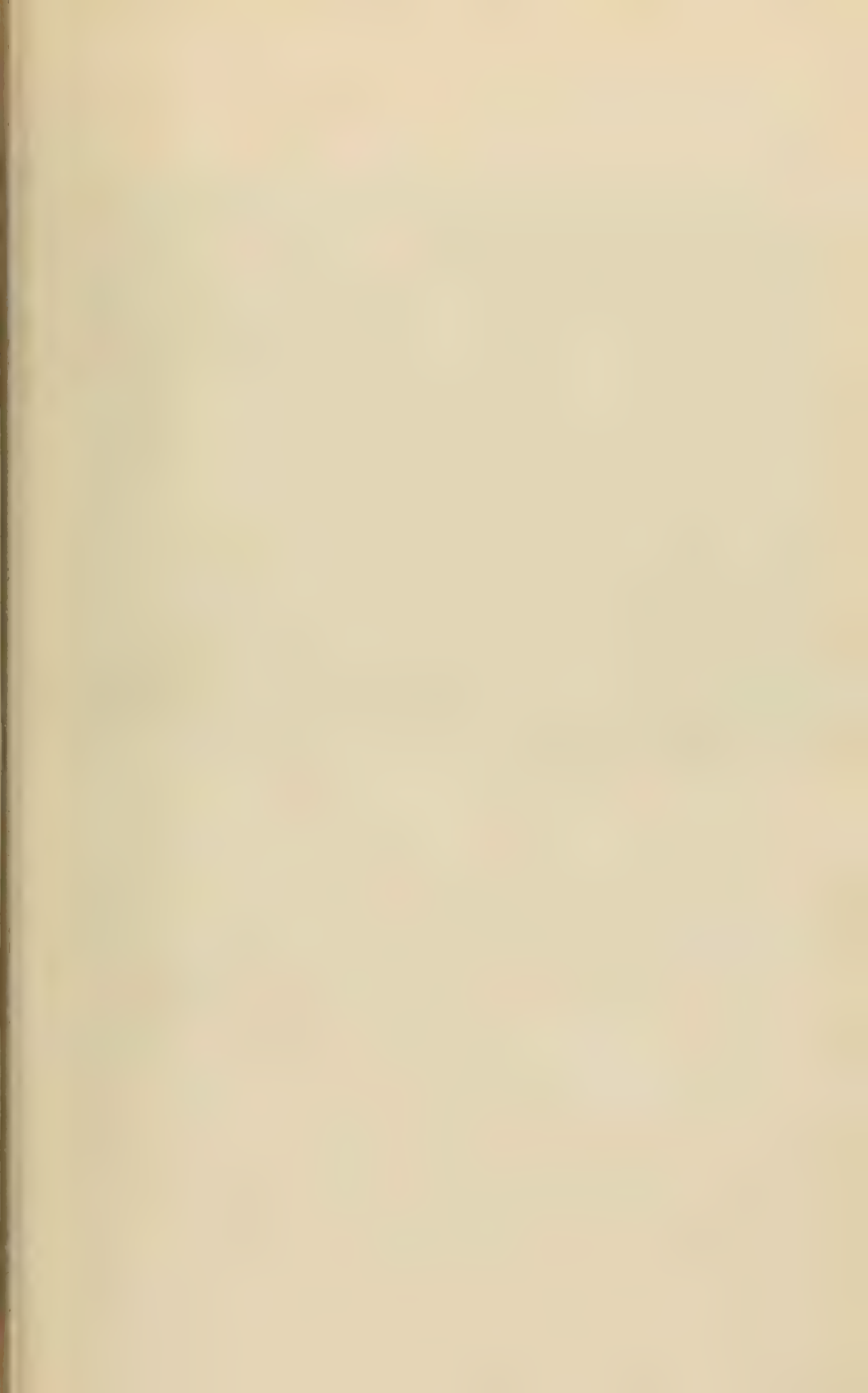


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"Cottonwoods"

W. E. Dassonville

How It Was Done

Winter Pictures

Thomas O. Sheckell

NO season of the year lends itself to pictorial work with greater satisfaction than does Winter. Photographs of snow laden trees, buildings, landscapes, closeups of the contour of the brook in Winter, the play of sunlight on the snow with the sparkle of surface texture and the delicate pattern of shadows cast over snow covered spaces are among the most intriguing of photographic subjects. Snow pictures are not easy to make. In fact, to render snow scenes in the spirit of Winter and preserve that feeling of whiteness, which characterizes the season, demands good craftsmanship of the photographer, but in compensation Winter photography yields rich returns.

As we approach the season when Winter pictures can and must be made, if made at all, a few suggestions and thoughts might be helpful to others.

Winter always appeals to me to be in a high key. Everything covered with a mantle of fresh clean snow looks so light and the scheme of things is in delicate tints. While buildings, fences, tree trunks and such objects look dark against the white snow, we must so handle such darks as not to deprive our picture of the real aspect of Winter. So often I see such pictures with areas of dark objects dominating the picture space and overpowering the snow that is the real motif of the picture, thereby lowering the whole key of the picture until it has little left to identify it as Winter.

My suggestion is therefore to so select your subject matter in the winter time as to render the whiteness of Winter, using the dark accents sparingly. Keep the key high and your results will be more in tune with the season.

Snow in sunlight and especially that in the near foreground, has a definite character and sparkle. The foreground must be carefully focused to preserve this snow texture, for it is this texture that characterizes the snow and no medium is quite so able to render faithfully the surface texture or the play of light on the snow as photography.



"Winter Landscape"

Thomas O. Sheckell

4x5" KoronaView; 9" Struss Pictorial lens. F:5.5; 1/100 sec. at F:8, bright day; E.K. Film Pack, in Pyro-Soda; print for reproduction E.K. P.M.C. 10, in M.Q.

I like to make very simple compositions for such pictures, but I try to include accents or interesting little surprises when possible and try to balance the composition to carry the interest over the picture space. I use panchromatic film for snow pictures, not that the rendering is any better on such emulsions, but I can always use an "A", or red filter, which I often use with such subjects to overcorrect the sky or to preserve a delicate cloud effect. I like to work pretty well against the source of light. I develop my films in D-76, as thereby I get a fine grain negative and preserve the texture in the enlargements made from them. I like to work with a soft focus lens, especially in making snow pictures. I use a Struss lens in a nine inch focal length on a 4x5 film, using a Korona View Camera and a tripod. I find a long bellows draw for close up work very helpful. I stop my lens, which is a f:5.5, down to f:11 and use a "K1" filter or an "A" filter, as the subject may require, but always some filter. My exposures are fast, depending of course upon the light, but I like to make snow pictures by quick exposure, say from 1/50th of a second to 1/100th of a second, with filter, if conditions warrant. A prolonged exposure makes for flatness and a dull picture, as does snow rendered



"Path of the Pictorialist"

Thomas O. Sheckell

4x5" Korona View; 9" Struss Pictorial lens, F:5.5; 1/50th sec. at F:11, on bright day with K-1 filter; Verichrome Film Pack in D-76; print for reproduction on E.K. P.M.C. 10, in M.Q.

on a gray day with no sunlight. Snow scenes taken by time exposure at night with the light of street lamps so concealed as not to appear in the picture are very pleasing.

Frequently we are prone to overdevelop our negatives of snow scenes in an endeavor to get the snow white, but I feel that a thin yet plucky negative is much more to be desired. It prints much easier, especially as most workers want to make enlargements, and such a negative printed on a paper of a long scale is much more pleasing than one with extreme contrast.

I like to make my prints of snow subjects on a chlorobromide paper such as Opal "G", white stock, developed in Adurol, which gives a very warm tone and ordinarily would not do at all for the finished print. I use it because I tone all my snow pictures in a gold bath to a beautiful blue tone.

If blue toning is to follow use this developing formula:

Water.....	16 oz.
Sodium Sulphite (anhydrous).....	130 grs.
Sodium Carbonate (anhydrous).....	130 grs.
Adurol.....	35 grs.
Potassium Bromide.....	20 grs.

Toning procedure is as follows: Make print on chloride or Chlorobromide paper, developed in Adurol. Fix and wash thoroughly until all traces of hypo are gone. Prepare the following solutions.

Solution A

Distilled water.....	15 oz.
Chloride of gold.....	15 grs.

Solution B

Water.....	20 oz.
Thiocarbamide*.....	20 grs.
Sulphuric Acid.....	30 minims

*Thiocarbamide is also known as Thiourea.

For use take 6 oz. of A. all of B. Time for toning about 20 minutes. This quantity of toner is good for about eight 11x14" prints if original development has not been forced too much. The reader must remember that good tones will not be obtained by this method unless the original black and white print is warm in tone. Development in Adurol is recommended because it gives warm blacks, with proper exposure and development.

The result of this toning is a rich carbon blue tone, the whites are clear and crisp. The toning tends to darken the print a trifle so I print a little light at first.

These blue toned prints likewise are excellent tone for marines, sunsets and night pictures and should be mounted on white mounts and a light blue water color line drawn with a ruling pen about one half inch around the print, which enhances the feeling of the blue tone. If the usual black and white print is desired, a print developed in Amidol or Metol-Hydroquinone will be good.

It takes a little effort to get out in the Winter but for those who would make the effort the return will be well worth it.



"Winter Sunlight"

Thomas O. Sheckell

4x5" Korona View; 9" Struss Pictorial lens, F:5.5; 1/50th sec. at F:11, on bright day with K-1 filter; Portrait Pan in D-76; print for reproduction E.K. P.M.C. 10. in M.Q.

Candid Shooting Of Stage And Radio Performances

Karl A. Barleben, Jr., F.R.P.S.

THE photography of stage and radio performances has become something of a rage lately. Just why is difficult to state off-hand, unless the fact that forbidden fruit is sweetest answers the question. True, the thrill of making pictures under difficult conditions is worth experiencing, but how often are the results successful in the same sense that a carefully conceived photograph is successful? Where is the opportunity to plan the picture? The composition? The exposure? This type of work is strictly a "catch as catch can" proposition, and admittedly requires considerable photographic skill and ingenuity.

Because in the past many difficulties had to be surmounted in order to carry this work to a successful conclusion, a prominent photographic magazine, in 1935 arranged for special "Candid Camera Nights" at some of the leading stage and radio shows in New York City. Willoughby's, Inc. offered prizes for the best shots made during the performance of Earl Carroll's "Sketch Book" on July the 15th. On October the 8th, the J. C. Eno Company offered prizes for the best shots made during their "Crime Clues" radio broadcast. This event, incidentally, was a rather important step in the annals of radio studio photography, being the first time a group of amateurs were admitted to a large studio working on a nationwide hook-up. The story, called "The Thin Film of Evidence", was written especially for the candid cameraman by author Stewart Sterling who writes all of the Spencer Dean thrillers for the "Crime Clues" program. The amateurs were permitted to photograph only the rehearsals, shortly before the story went on the air, but it gave them an excellent opportunity to "do their stuff".

"Jumbo", Billy Rose's show which ran in New York's Hippodrome late in 1935 offered another "night" for amateur candid cameramen. These few examples will serve to show that there is a demand for such events.



"Candid Camera Night"

Karl A. Barleben, Jr.

When a special "Candid Camera Night" at a broadcasting studio is announced, cameras by the dozens can be seen in the studio. Here is a general view of station WJZ (studio 3B) of NBC in Radio City, New York, during the rehearsal of a "Crime Clues" program. Amateur cameramen are mingling with the performers while the program director (with ear-phones) prepares for the actual broadcast.

and amateurs responded enthusiastically. These events, however, made things almost too easy, for there is nothing to photographing a show which is "placed in your lap" so to speak. The thrill of possible ejection from the theatre, for example, is missing. You sit there with calm and ease, knowing that it is all yours for the taking.

Stage photography against house rules is something quite different. There exists a real risk, and if detected making photographs, some managers become quite enraged and forcibly eject the culprit, camera and all. It's real fun, though, matching wits and skill with unforeseen forces who are just as determined that you shall not make photographs as you are to do so. The prearranged "candid camera nights" have taken the sting out of such thrills, but if you are so minded, there are still plenty of shows to photograph without benefit of permission.

To every amateur camerist usually comes the desire to attack the difficult, and so naturally night photography, stage and radio photography, and personality candid photography come to mind. Those unacquainted with the details are wisest who investigate first and shoot after-



*Scene from Earl
Carroll's "Sketch Book"*

Karl A. Barleben, Jr.

ward. All too often improper equipment is considered "good enough", but it is soon learned that equipment cannot be too good, even the best. As a starter, let's see what is absolutely necessary for good results, understanding at the beginning that inferior equipment is definitely out on many counts.

First and foremost in importance is a fast lens. Lenses with speeds of $f:3.5$ and even $f:4.5$ may of course be used, but they are more of a handicap than anything else. Lenses of the "ultra-speed" type such as $f:2$, $f:1.9$, and $f:1.5$ should really be used in order to be able to take advantage of every possible condition. If the lens is something of a long-focus one, so much the better, for it is often impossible to get close enough to the scene of action to secure fairly large images from a distance with the standard lens. Better still, two lenses, one of standard focal length and another of additional focal length, will enable a greater variety of negatives to be secured.

The next necessary aid is speedy film. The fastest panchromatic film (panchromatic because of the tungsten illumination almost always used at such events under discussion) will help in no small measure. Agfa Superpan, DuPont Superior (or "high red"), and Eastman Super-X are representative types to choose from. The more ambitious camerists will



Broadcasters"

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Edward Reese (as Spencer Dean) rehearsing for a "Crime Clues" broadcast over the National Broadcasting Company's Blue Network.

probably try hypersensitized film—film which has been exposed to an ammonia bath, thus increasing its speed by about two or three times. Doing this at home is a risky business, and messy, too. The film manufacturing concerns supply hypersensitized film, and in view of this fact, it is difficult to understand why amateurs still persist in trying to hypersensitize their film at home. This special film is in all cases best purchased from the manufacturer, but it must be carefully handled and kept in the refrigerator until actual use for it breaks down (chemically) rapidly, falling back to its original speed within a few days. It should be also noted that hypersensitizing film does not in the least help the grain situation—in case grain is of interest to you.

With a fast lens and film, the camerist is well along the road to successful pictures. Next, however, comes the important matter of camera size. Because fast lenses are so costly, the camera is of necessity small to begin with, and it is only reasonable to conclude that the miniature camera is without doubt the best kind of outfit for the purpose. It is easily concealed, is quick in action, permits many negatives to be made at one loading, and is extremely inexpensive in operation. Cameras using standard 35mm film are used by the vast majority of specialists who do stage and radio photography professionally. This is a good cue for the



Scene from Earl Carroll's "Sketch Book"

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amateur who has not as yet bought a camera for this purpose. The tiny miniature camera is the only type which permits the many necessary requirements to be fulfilled.

Exposures will naturally vary tremendously, and as exposure meters are impossible to use, only experience and good judgment can be relied upon as being of any assistance. As a rule, the slowest shutter speed consistent with the speed of the object (if moving, which it usually is) should be used. Similarly, the lens should be left wide open unless the brilliance of the illumination indicates otherwise. No hard and fast rules can be laid down in this matter, for each different theatre or studio will offer greatly varying lighting conditions. In all cases, tripods are out of the question for slow shutter speeds, as can be well imagined, especially in theatres. Some workers can handle speeds as slow as one second with the camera hand-held. On the other hand, some have difficulty in preventing blurred results at a $1/25$ th! The answer lies with the individual. Some can use slow speeds without the aid of a support, while others can't. In all cases, however, chances should not be taken. When slow speeds are in order some sort of steadying device should be used. For instance, some theatre cameramen use a leather strap, one end of which is clipped to the base of the camera, the other end wrapped around the arm of the seat in such a manner that the camera is afforded considerable steadiness in spite of its being hand-held. The camera being held and forced upward, so as to tighten the strap, effects a steadiness that is quite satisfactory.

When seated in theatre seats, it is sometimes difficult to secure a clear view for the camera because of the heads of those seated directly



Scene from Earl Carroll's "Sketch Book"

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ahead. A direct vision view-finder is a necessity, the reflecting type being entirely impossible to use. Some workers find a solution to the "man in front" problem by holding the camera up-side-down, camera back pressed firmly against the forehead. This gives the lens a greater freedom from obstacles, and yet the direct view-finder serves as always to aim the camera. This suggestion is possibly one of the best so far devised, and it certainly works.

One of the most discouraging occurrences which can befall the camerist in a darkened theatre is to suddenly discover that something is wrong with the camera, or a new film has to be loaded, or another lens stop and shutter speed is desired—and not have sufficient light to work by. Many workers equip themselves for such emergencies by buying one of those "fountain pen" flash-lights which can be carried in the pocket with as much ease as a mechanical pencil or fountain pen. Always handy, it furnishes the necessary illumination to see by when making adjustments. If the light is too bright, so as to disturb those in the near vicinity, a green or red gelatine filter can be affixed behind the "lens" of the flash-light, thereby making the light less conspicuous. While such an auxiliary flash-light is strongly suggested for all theatre camerists, it should be brought out that the worker should understand his camera sufficiently to be able to manipulate it even with his eyes closed. Of course shutter

speeds and lens settings require light to see by, but even here a good deal can be done without aid if the lens mount and shutter engravings are on a highly-polished surface such as chromium or nickel. For instance, I have never had occasion to need auxiliary light for adjustments in even very dimly lit theatres because the camera I use is equipped with lens and shutter markings which are quickly and readily read. It has to be completely dark before I need light from a pocket flash-light to make camera adjustments. As for camera manipulation, he who has not sufficiently studied and worked with his camera to know it by heart had best forget about these more difficult forms of photography until he does. Everything should be co-ordinated and done mechanically so that the attention is left free to devote to the scene of action.

Along with stage and radio broadcasting studio work goes of course the necessity for full permission to make photographs during the performance. Legally, anyone who has paid the admission fee is entitled to make pictures of the show, but there are many cases where such action is met with rigid opposition. It would be better to secure permission from the management first and thus avoid any unpleasantness which might otherwise arise. On this score, the Candid Camera Nights movement is a boon—it permits those so inclined to indulge in theatre photography with the comfortable sense of security and freedom from annoying irritation.

Radio broadcasting studios are naturally even more strict than theatres with regard to making pictures because the slightest noise—even the click of a camera shutter—may go over the air, and prove damaging to the program. Then, too, studios are not illuminated favorably—in this respect theatres offer more to the photographer. One of the most famous professional candid cameramen in the country, Rudolf H. Hoffmann, usually carries his own lighting equipment when doing assignments of radio stars during their broadcasts. He told me that it is next to impossible to do anything with the usual studio lighting, it being entirely inadequate. If you have tried theatre and radio photography, you can begin to appreciate what professional cameramen are up against daily in their efforts to secure successful likenesses. Their work must be good regardless of conditions, and when your bread and butter depends upon it, your technique and ingenuity have to be keen to a remarkable degree.

It's lots of fun, though, and the amateur who has not tried this work really owes it to himself, if for nothing more than the experience.

A New Fine Grain Developer

P. W. Vittum and J. I. Crabtree

I. Introduction

THE growing popularity of miniature cameras during the past few years has brought the subject of image graininess to the attention of most photographers and has increased greatly the necessity for methods by which fine grained images can be produced.

A study of the literature reveals that of the numerous fine grain developers which have been proposed from time to time, two types appear to be generally satisfactory, namely (a) elon-hydroquinone-borax developers, and (b) p-phenylenediamine developers. Those of the first type are almost all modifications of the Eastman elon-hydroquinone-borax developer formula D-76* which was worked out to give the minimum graininess possible with no attendant loss in emulsion speed. However, if a high degree of enlargement is required from a negative, the graininess obtained with D-76 in some cases is not sufficiently low, and it is desirable in such cases to use developers giving still less graininess, even though they cause a loss in effective emulsion speed. For such purpose, p-phenylenediamine (and combinations of this with glycine) has been the most satisfactory developer available to date, although it has several serious disadvantages including (a) low rate of development, (b) toxicity, and (c) a propensity for staining the fingers and trays.

Realizing the need for a more satisfactory fine grain developer for use when very low graininess is desired, the Research Laboratories of the Eastman Kodak Company undertook an investigation of the problem and have devised a formula known as the "Eastman Ultra Fine Grain Developer" which is just as satisfactory as p-phenylenediamine from the standpoint of its ability to yield fine grained images, and has a satisfactorily

*D-76

	<i>Avoirdupois</i>	<i>Metric</i>
Elon	29 grains	2 grams
Sodium sulfite (desiccated) ..	3 ounces	100 grams
Hydroquinone	73 grains	5 grams
Borax, crystals ..	29 grains	2 grams
Water to	32 ounces	1 liter

high rate of development, does not stain, and is free from the serious toxic effects possessed by p-phenylenediamine.

It is the purpose of this article to outline in some detail the photographic properties of this new developer.

II. Properties of the Eastman Ultra Fine Grain Developer

A. GRAININESS CHARACTERISTICS

Measurement of Graininess. Although various methods for measuring graininess have been proposed from time to time, the method by which actual enlargements are compared was chosen for these experiments since this method can be relied upon to give results of direct application to practice.

Since the graininess of an image varies with its density and its degree of development or gamma, *¹ it is apparent that when making graininess comparisons the negatives must be matched with regard to both density and gamma, and the effect of the developer upon effective emulsion speed must be taken into account.

The method used for comparisons in these experiments consisted essentially of the following steps:

1. Measurement of the rate of development and effective emulsion speed for each developer to be compared.
2. Development to the same gamma (usually 0.8) in each developer of a series of picture negatives which had received increasing exposures.
3. Selection of one negative from the set obtained with each developer, so that the final negatives for graininess comparisons were closely matched with regard to highlight density.
4. Preparation of matched enlargements from these negatives.
5. Comparison of the enlargements so as to arrange the developers in the order of their ability to give fine grained images.

The test object for the preparation of the picture negatives consisted of a portrait transparency (8 by 10 in.) attached to an opal glass illuminated from the rear with a 500-watt tungsten lamp. This test object was photographed with a Pupille camera at a distance of 3½ feet and the exposures were varied by changing the voltage across the lamp, since it was desired to operate always at the same lens opening in order to avoid any slight changes in definition. The relationship between voltage and exposure was determined for the films used, so that the relative exposures of any two negatives could be determined easily from the voltage values.

The small changes (5 to 10 volts) in voltage used in these experiments have only a slight effect upon the spectral composition of the light. If the voltage changes over wider ranges, it is desirable to use a daylight filter over the camera lens in order to eliminate any change in the spectral composition of the light used for exposures.

A 10 inch length of the film having received a series of six graduated exposures was developed in each developer to the desired gamma, and one negative from each developer was then selected so that the final negatives were all matched in density. Matched projection prints were

*Gamma is a numerical expression of the degree of development and under constant conditions of exposure represents a measure of the contrast of the negative.

made from these negatives, using an enlarger having condenser illumination and giving any desired degree of enlargement up to approximately 50 diameters.

Methods of Evaluating Graininess. The relative graininess of a group of negatives may be evaluated by using either of the following procedures: (a) Determine for each negative the degree of enlargement at which nonhomogeneity just becomes apparent in the print when examined at a constant distance from the eyes, or measure the magnification necessary to make prints having equal degrees of graininess from the different negatives. (b) Prepare prints from the negatives using equal degrees of enlargement, and determine the distances at which the prints must be placed from the eye in order that image nonhomogeneity is just visible. The numbers obtained by squaring the distance may then be considered as a relative measure of the graininess of the print image.

Relative Graininess of Images Produced. Graininess comparisons were made with the Eastman Ultra Fine Grain developer, the Eastman D-72 (a typical MQ formula), a p-phenylenediamine developer, and a recognized p-phenylenediamine-glycin developer,² the formulas for which are as follows:

Elon-Hydroquinone Developer
(Formula D-72)

Stock Solution

	<i>Avoirdupois</i>	<i>Metric</i>
Elon.....	45 grains	3.1 grams
Sodium sulfite (desiccated).....	1½ ounces	45.0 grams
Hydroquinone.....	175 grains	12.0 grams
Sodium carbonate (desiccated).....	2¼ ounces	67.5 grams
Potassium bromide.....	27 grains	1.9 grams
Water to.....	32 ounces	1.0 liter

Dilute 1 part to 2 parts water for use.

p-Phenylenediamine Developer

p-Phenylenediamine.....	145 grains	10.0 grams
Sodium sulfite (desiccated).....	1 ounce 290 grains	50.0 grams
Water to.....	32 ounces	1.0 liter

p-Phenylenediamine-Glycin Developer

p-Phenylenediamine.....	145 grains	10.0 grams
Glycin.....	175 grains	12.0 grams
Sodium sulfite (desiccated).....	3 ounces	90.0 grams
Water to.....	32 ounces	1.0 liter

The differences in graininess obtained with these developers are indicated graphically in Figures 1 and 2. Figure 1 shows portions of 50-diameter enlargements made from negatives on Eastman Panatomic roll film developed in the four developers to a gamma of 0.8. A similar comparison using Eastman Super Sensitive Panchromatic roll film is shown in Figure 2.

It is seen that the image graininess produced with either film by D-72 is greater than that produced by the other three developers, namely, the Eastman Ultra Fine Grain Developer, p-Phenylenediamine, and



D-72

*Eastman
Ultra Fine
Grain
Developer*

*p-phenylene-
diamine*

*p-phenylene-
diamine
glycin*

Fig. 1 Panatomic Roll Film 50X

p-Phenylenediamine-Glycin. The latter three developers are seen to be approximately equal with respect to the graininess of image produced.

Tests with D-76 indicated that the image graininess is less than that with D-72, but considerably greater than that given by the Ultra Fine Grain developer.

From these experiments and others made with this group of developers, it is estimated that negatives developed in the Eastman Ultra Fine Grain developer must be enlarged at least 15 to 20 diameters in order that the prints will show a degree of graininess equal to that shown by 10-diameter enlargements from negatives developed in D-72.

It is of interest also to compare the enlargements from the Panatomic negatives with those from the Super Sensitive Panchromatic Negatives. The graininess of the Panatomic negative developed in D-72 is seen to be slightly greater than that of the Super Sensitive Panchromatic negative developed in the Ultra Fine Grain developer. Also, approximately equal effective emulsion speeds are obtained when Panatomic is developed in D-72 and Super Sensitive Panchromatic is developed in the Eastman Ultra Fine Grain developer.

B. RATE OF DEVELOPMENT

The data in Table I give the times of development at 65°F. (18°C.) required for a gamma of 0.8 with D-76 and the three fine grain developers used in the graininess comparison. A more complete comparison in this respect is given in Figures 3 and 4, consisting of gamma-time of development curves for Panatomic and Super Sensitive Panchromatic films at 65°F. (18°C). The curves indicate that the rate of development with the Eastman Ultra Fine Grain developer is approximately equal to that with

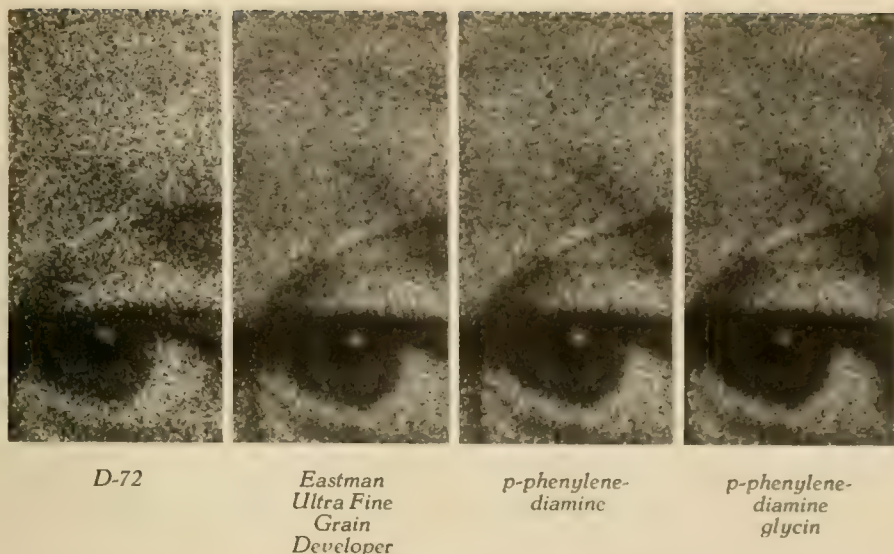


Fig. 2 S.S. Pan Film 50X

D-76, while the p-phenylenediamine and p-phenylenediamine-glycin developers are considerably slower in action, requiring much longer times of development for a given gamma.

The effect of change of temperature on the rate of development in the Eastman Ultra Fine Grain developer is illustrated in Figures 5 and 6, in which are given time-gamma curves for Panatomic and Super Sensitive Panchromatic films at 55°, 65°, and 75°F. (12°, 18°, and 24°C.).

C. FOG

From Table I it is seen that the Ultra Fine Grain developer gives only slightly higher fog values than D-76 at 65°F. (18°C.) at a gamma value of 0.8, and tests have shown that the fog values at higher and lower gammas and higher and lower temperatures are maintained approximately in the same ratio. These fog values are of about the order normally found in correctly developed negatives.

D. EFFECTIVE EMULSION SPEED

The data in Table I include a comparison of the Ultra Fine Grain developer with the other developers with respect to effective emulsion speed. These emulsion speeds are given in relative units expressing the relationship of the exposures required with the different developers. For example, if two developers give relative effective emulsion speeds of 100 and 50, then in order that negatives of equal density be obtained in the two developers, the second negative must receive twice the exposure given for the first.

From the data it is seen that with either Panatomic or Super Sensitive Panchromatic films the effective emulsion speed obtained with D-76 is approximately double that obtained with the Ultra Fine Grain devel-

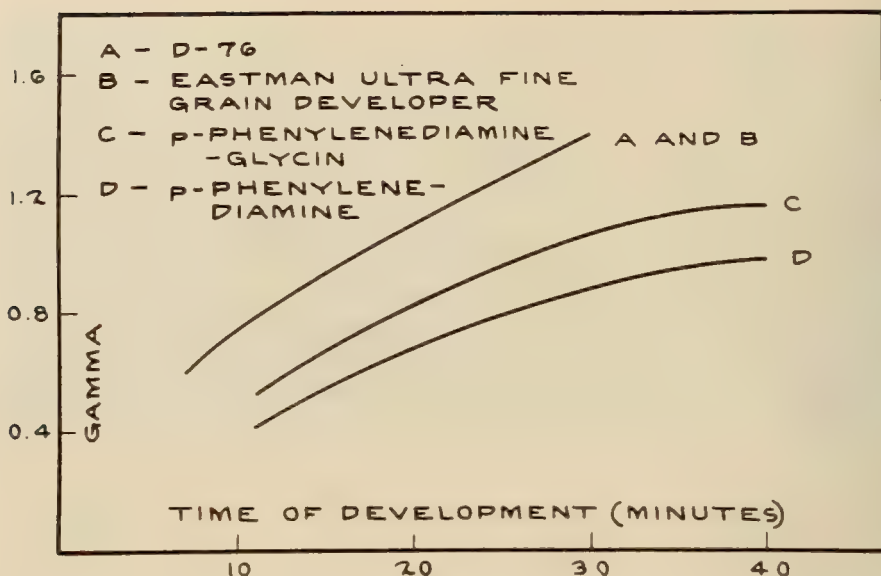


Fig. 3

oper, p-phenylenediamine, or p-phenylenediamine-glycin. Therefore, negatives which are to be developed in the Ultra Fine Grain developer should receive approximately double the exposure normally required when D-76 is used. The exposure required for negatives developed in either of the p-phenylenediamine developers must likewise be about twice that required for negatives developed in D-76.

E. KEEPING PROPERTIES

(a) *Storage Life.* Tests have shown that the Eastman Ultra Fine Grain developer keeps as well as D-76 when both developers are stored in stoppered bottles either completely or partially filled. It has been found, however, that the Ultra Fine Grain developer loses its activity slowly when stored in open containers, the rate of deterioration depending upon the surface area which is exposed to the air. Thus, when the developer was stored in open trays at 70° F. (21°C.), the time of development in some cases increased from 15 minutes in the fresh developer to 30 minutes, after 24 hours, although the solution remained colorless.

In loosely covered tanks, the rate of deterioration is much lower, and under average conditions little or no loss in activity will occur in the unused developer when stored for one week at 70°F. (21°C.). It is advisable, however, to store the developer in bottles or other air-tight containers, in order to avoid possible loss of activity resulting from exposure of the developer to the air.

(b) *Exhaustion Life.* The rate of development in any developer decreases gradually as the developer is used, due to the accumulation, in the solution, of bromide and other reaction products of development,³ which also cause a gradual decrease in the effective emulsion speed as exhaustion of the developer proceeds.

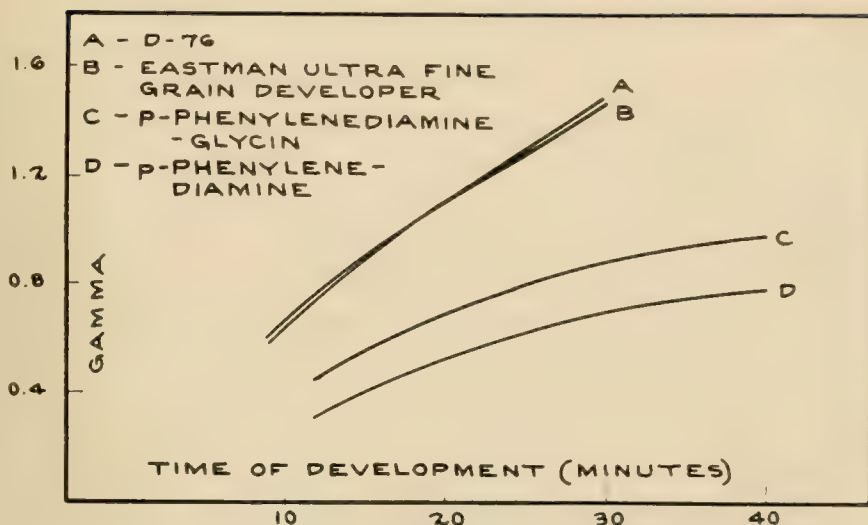


Fig. 4

A comparison of the Eastman Ultra Fine Grain developer with D-76 showed that the two developers behaved very similarly during exhaustion. With both developers, a degree of exhaustion corresponding to the development of about 650 square inches of Super Sensitive Panchromatic roll film per 32 ounces (1 liter) of developer produced the following effects:

1. The time of development necessary to reach a given gamma was increased to about twice that required in the fresh developers.
2. The effective emulsion speed was reduced to about one-half that obtained in the fresh developers.

If the exhaustions are carried out in such a way that the developers are aerated excessively, the Ultra Fine Grain developer deteriorates more rapidly than D-76, due to the effect of exposure to the air, mentioned above.

F. FORMATION OF SILVER SLUDGE

All developers which contain sulfite dissolve a certain quantity of silver halide from the emulsions and this dissolved silver halide is slowly reduced to metallic silver, which separates as a gray sludge.⁴ With the Ultra Fine Grain developer, this sludge appears at a slightly earlier stage of exhaustion than with D-76. At a stage of exhaustion corresponding to the development of about 120 square inches of Super Sensitive Panchromatic film per 32 ounces, the developer becomes cloudy, but no appreciable quantity of sludge separates until about 240 square inches have been developed per 32 ounces. This sludge does no harm until it is present in large quantities, when it may deposit on the negatives but it can be removed easily by swabbing with wet cotton or similar material before drying.

G. COLOR OF IMAGE

Negatives developed in the Ultra Fine Grain developer have a dis-

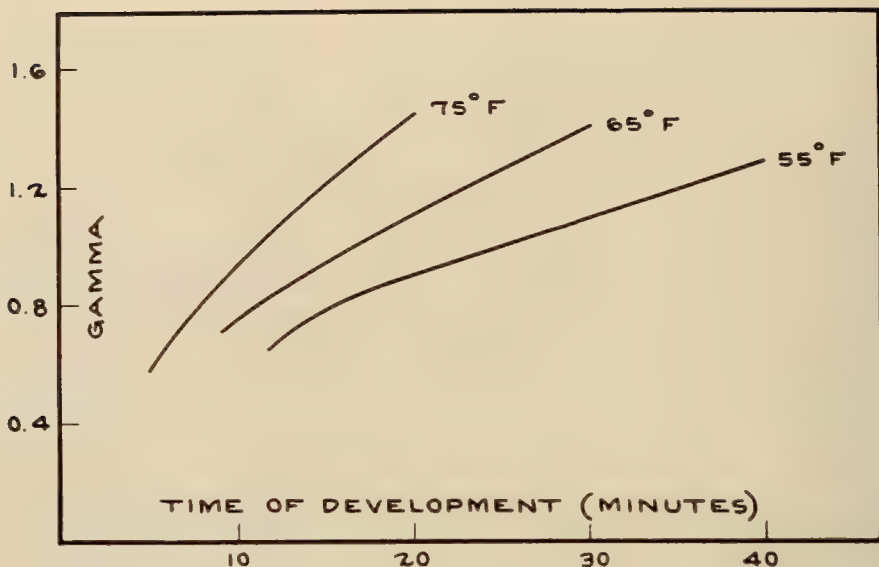


Fig. 5

tinct brown color which is particularly noticeable when the negatives are wet, and when viewed by transmitted light, the dried negatives appear to have a slightly warmer tone than those developed in D-76. This brown tone results from the finer degree of subdivision of the silver and is not caused by a stain image accompanying the silver. The effect of this warm tone is to increase slightly the photographic contrast of the image. For this reason, when it is desired to develop negatives to equal photographic contrast in D-76 and the Ultra Fine Grain developer, the latter negative must have a slightly lower visual contrast (gamma) than the former. At a photographic gamma of 0.8, the visual gammas in this case are approximately 0.8 for D-76, and 0.75 for the Ultra Fine Grain developer, that is, the "color index" of the latter is $\frac{0.8}{0.75} = 1.07$. This difference in visual gamma contributes to the graininess difference between the two developers, but the effect due to such a low color index is relatively slight.

H. RESOLVING POWER

When evaluating the graininess characteristics of a developer, it is important that improved graininess shall not be obtained at the expense of loss in resolving power or the ability of the emulsion to render fine detail. Resolving power is usually measured in terms of the number of lines per millimeter which the emulsion is capable of reproducing, and depends upon a number of factors including graininess, irradiation, and halation.

However, with a given emulsion under any fixed conditions, when most of these factors are constant, resolving power usually increases as the graininess is diminished and tests with Panatomic film have indicated that at equal gammas, the maximum resolving power with the Ultra

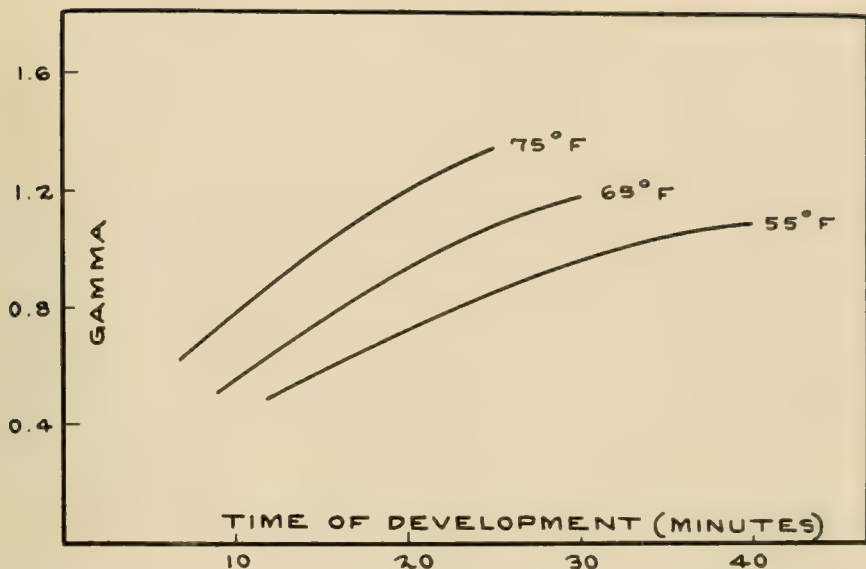


Fig. 6

Fine Grain developer is approximately 50 per cent greater than with D-76.

I. CAN THE DEVELOPER BE MADE MORE ACTIVE?

The activity of the developer may be increased in two ways:—(a) By making it more concentrated. The Ultra Fine Grain developer may be dissolved in about 25 per cent less water than the recommended quantity, to form a solution which is nearly saturated at 65°F. Tests have shown that this procedure leads to only a slight (about 5 to 10 per cent) increase in the rate of development, and has no effect upon the image graininess produced.

(b) By raising the temperature of development from 65° to 75°F., the time of development required for a given gamma may be decreased approximately 30 per cent. It should be noted, however, that with all developers there appears to be a slight increase in graininess with increasing temperature of development but in the case of the Ultra Fine Grain developer, the increase is very small when compared, for example, with the difference in graininess produced by the Ultra Fine Grain developer and by D-72. However, if a minimum of graininess is desired, no attempt should be made to increase the activity of the developer by increasing the temperature of development.

III. Practical Recommendations

A. WHEN TO USE THE ULTRA FINE GRAIN DEVELOPER

In preparing negatives for enlargement, the selection of the developer should be based upon a consideration of the degree of enlargement to be used. Assuming that enlargements up to 11 by 14 inches are to be made from relatively large negatives (2 by 3 inches or larger), satisfactorily low graininess is usually obtained with D-76, which permits the

use of normal exposures. However, in work with so-called miniature negatives (smaller than 2 by 3 inches) or in cases where only a small portion of a larger negative is to be enlarged, the Ultra Fine Grain developer is recommended. In such cases, the exposure should be about twice that normally required when D-76 is used.

B. TIME OF DEVELOPMENT

For average work, when a gamma of 0.8 to 1.0 is desired, the times of development for Panatomic, Super Sensitive Panchromatic, and Super X films in the Eastman Ultra Fine Grain developer are as follows:

<i>Temperature</i>	<i>Time for Tank Development</i>	
	<i>Eastman Panatomic</i>	<i>Eastman Super Sensitive Panchromatic and Super X</i>
55°F. (12°C.)	16 to 25 Min.	20 to 30 Min.
65°F. (18°C.)	10 to 15 Min.	15 to 20 Min.
75°F. (24°C.)	8 to 11 Min.	10 to 15 Min.

These times are for tank development with moderate agitation and should be increased slightly when a very low degree of agitation is used.

For tray development (rapid agitation) the times given above should be decreased approximately 20 per cent.

Film packs should be developed for about 20 per cent longer than roll films and Retina and Leica films.

C. FIXING BATH

For use with the Ultra Fine Grain developer, the Eastman F-5 fixing bath has been found to be very satisfactory, although any fixing bath which is satisfactory for use with other developers may be used with this developer also.

D. USE UNDER TROPICAL CONDITIONS

Since raising the temperature of development tends to increase the image graininess, if a minimum of graininess is desired, the temperature should not exceed 65°F. However, if it is necessary to use a higher temperature, the Eastman Ultra Fine Grain developer will give satisfactory results.

At temperatures up to 75°F., the regular processing methods may be used, but between 75° and 85°F., the following hardening bath should be used after development and before fixation, in conjunction with the F-5 fixing bath. An average time of development for Panatomic film at 85°F. (29°C.) is from 6 to 9 minutes, and for Super Sensitive film, from 7 to 11 minutes.

Chrome Alum Hardening Bath (Formula SB-3)

	<i>Avoirdupois</i>	<i>Metric</i>
Water.....	32 ounces	1 liter
Potassium chrome alum.....	1 ounce	30 grams

Agitate the negatives for a few seconds when first immersed in the hardener. Leave them in the bath for 3 minutes, then fix for at least 10 minutes in the F-5 fixing bath.

IV. Summary

The image graininess produced by the Eastman Ultra Fine Grain developer has been found to be fully equal to that produced by p-phenylenediamine and p-phenylenediamine-glycin developers without added alkali. The relative effective emulsion speeds obtained in this developer and in p-phenylenediamine are approximately equal, and with both developers the exposure must be about twice that required for negatives developed in elon-hydroquinone-borax developers of the Eastman D-76 type. The rate of development in the Eastman Ultra Fine Grain developer is approximately equal to that obtained in D-76, and considerably higher than that in p-phenylenediamine, while the developer does not have the disadvantage of toxicity and tendency to stain, possessed by p-phenylenediamine.

TABLE I
Comparison of Fine Grain Developers for Panatomic and Super Sensitive Panchromatic Films
Data at Gamma=0.8

Developer	Panatomic Film		Super Sensitive Pan. Film	
	Time of Development at 65° F.	Relative* Effective Emulsion Speed	Time of Development at 65° F.	Relative* Effective Emulsion Speed
D-76	11 Min.	100%	15 Min.	210%
Eastman Ultra Fine Grain	11 Min.	56%	16 Min.	110%
p-Phenylenediamine ..	25 Min.	50%	44 Min.	96%
p-Phenylenediamine glycin	19 Min.	52%	25 Min.	110%

*Taking the speed of Panatomic in D-76 arbitrarily as 100 units.

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The Eastman Ultra Fine Grain Developer is available as a prepared developer in powder form. The actual formula is a trade secret and is not to be published. — Ed.

Bromoils And Transfers

Part II

Charles H. Partington

FOLLOWING the article in last month's issue of CAMERA CRAFT which covered a general discussion of bromoils and transfers, we now proceed with the actual inked print.

The particular paper to be used for bromoils is a matter of some concern as not all makes or grades are suitable due to certain properties of the emulsion. Glossy and dead matte papers while offering possibilities in the hands of experienced workers are troublesome at best and should be left strictly alone. Rough and platino matte are quite adaptable to bromoils with the latter preferred for transfer work. Wellington's Bromoil paper, so labeled and made for the purpose is very nice stock to use and another producing excellent results is Velour Black made by the Defender Photo Supply Company. When ordering the latter, specify "for bromoil" as the manufacturer prefers to supply real fresh stock but I can recommend that absolutely fresh paper is not necessary to satisfactory results. Good bromoils have resulted from any paper, the emulsion of which is suitable, provided the age does not exceed the limit date printed on the package.

Considering that the print has been exposed, developed, fixed, washed and dried according to instructions given in the previous article, it is then ready for bleaching.

The print should be soaked until limp before bleaching and when put into the solution should be rocked until all black has disappeared after which it is advisable to float face down for a minute or two. Follow with washing by handling over in about six changes of water until practically all traces of color from the bleacher have been removed. Transfer to the sulphuric acid bath and keep well submerged and rock the tray for a period of two to four minutes. Again wash thoroughly as above and fix in the bath composed of hypo and sodium sulphite. Five to eight minutes in this bath is sufficient and washing completes the process.

Now for recommendations on the two really important factors, soaking and drying.

Soaking, previous to inking the print, must be *absolutely uniform*. When performing this operation in a tray it is necessary to keep constant watch in order to prevent any part of the print being out of the water.

either entirely or nearly so. Paper, being flexible and in addition a floating substance, will, if left alone present one or more patches that remain out of water. These patches may then soak only half as much as the balance of print or even get really dry. This results in the gelatin at such spots being too dry in proportion and the ink adheres more than it should thereby producing a blotched result. It is important therefore that constant attention be applied toward keeping the entire print in contact with the water.

Thorough and uniform soaking is most easily accomplished by suspending the print vertically in any vessel deep enough to accommodate the size of the print. I use a large, galvanized iron tank that is part of an 8x10 negative wash box. A film clip attached to bottom of print acts as a sinker to keep the bottom edge down. Another clip at top suspended on a wire across top of tank supports the print. My tank being of generous proportions allows four to six prints being submerged at one time. This method eliminates uneven soaking and allows one to go on with other work in the meantime.

At times, great stress has been laid on the matter of temperature of water and length of time for the soaking period. Any fixed time or temperature is not necessary as all that is required is immersion of the print in water for sufficient time that the maximum of moisture is absorbed. The soaking of a print for bromoil can be compared with developing a plate or film where time and temperature go hand in hand. The higher the temperature the less time for complete development while for bromoils the higher temperature likewise means less time for soaking. Experience with a few prints soon teaches a worker when the print is in condition to be inked with satisfactory results. When in a hurry I soak prints in water at tap temperature until limp which is a matter of two or three minutes after which they are placed in water at 110° to 125° F. the temperature from the tap being anywhere from 45° to 85° according to winter or summer season. After removing from warm water a dash of cold water is helpful to prevent too rapid evaporation because of the heat remaining in the paper and emulsion.

Using the above method results in proper condition of the print being obtained within ten to fifteen minutes. Although no drawback in results was ever experienced from high temperature soaking I prefer longer periods of immersion at lower temperatures. When time allows soaking for a period of one to two hours at 75° to 90° puts the print in good shape.

Another phase of bromoil work worthy of note is the matter of drying between the various chemical processes.

Importance must be attached to even drying just as well as to even soaking. Prints spread out to dry on paper or blotters will, in most cases have pools of water in spots or at least have spots more in contact at one place on their support than at other parts. This results in uneven conditioning of the gelatin and consequent patchy inking. Uniform drying is assured by laying the wet print face up on a blotter and then mopping top surface with clean, dry cloth until all traces of wet spots, large or small, have disappeared. The print is then hung to dry by means of a

film clip attached to one corner. In this manner, with all surface water eliminated, front and rear and with air surrounding the print, drying will be properly accomplished. A well washed handkerchief makes excellent mopping material, especially previous to inking. Filter paper obtained in large, square sheets is far superior to a blotter for absorbing water from either front or rear of print. Being lintless it leaves no fuzz and when used on emulsion side previous to inking very little water remains to be dabbed off with a cloth.

The articles and their preparation for the inking operation are listed and described as follows:

A beginner should start with black ink only as its composition is most suitable for an inexperienced worker. Colors, exclusive of sepia, seem to have a sort of sticky and stringy property that makes such inks more difficult to work. In black, provide both hard and soft inks, the former being known as "Encre Machine" and the latter as "Encre Taille Douce". Hard ink is best at all times but requires a longer period to apply. A little, very little soft, mixed with the hard variety makes inking easier and quicker but it should be remembered that soft ink tends to flatness and impure whites. Any medium to thin the ink should be omitted as such substance tends to be tacky and not productive of good print quality. If ink gets stiff from age it is best discarded for new instead of using a medium to make it soft.

Brushes are important and should be good. Those with a low first cost are most expensive in the end. The low priced variety have ground ends which present hairs of the stubble type that produce very coarse, grainy inking. The stag foot shape with thin hairs presenting their natural needle point tips are the kind that produce the best results. The hairs are bound in heavy quill attached to a hardwood handle which is quite stocky at the bound end while being very much tapered at the grip terminal. I have such brushes which are still in perfect shape after fifteen years use. Even with good brushes, care is essential to long life and cleaning well, after use, is easily accomplished by dipping in naphtha, benzine or carbon tetrachloride and then wiping on newspaper. Dip and wipe several times until no traces of ink appear on the paper. Hang brushes to dry before putting away in a box or drawer to protect from dust and dirt. Brushes cleaned with carbon tetrachloride can be used again within a few hours. If other cleaners are used it takes as long as twenty-four hours for complete evaporation. If not thoroughly dry, the greasy residue from the cleaning fluid will soften the ink resulting in badly smudged whites and flat results, a very exasperating condition for one who does not realize the cause of trouble.

Previous to inking a print, arrange your materials and equipment for easy handling.

Provide a piece of plate glass at least one-quarter of an inch thick and two inches or more greater in width than the largest print to be inked. Glass that is lighter than recommended not only bobs around and rattles but does not present a real firm support for the inking process. The glass plate should be covered by a well soaked blotter and then tendered light pressure from a roller to remove excess water. The wet blotter is not

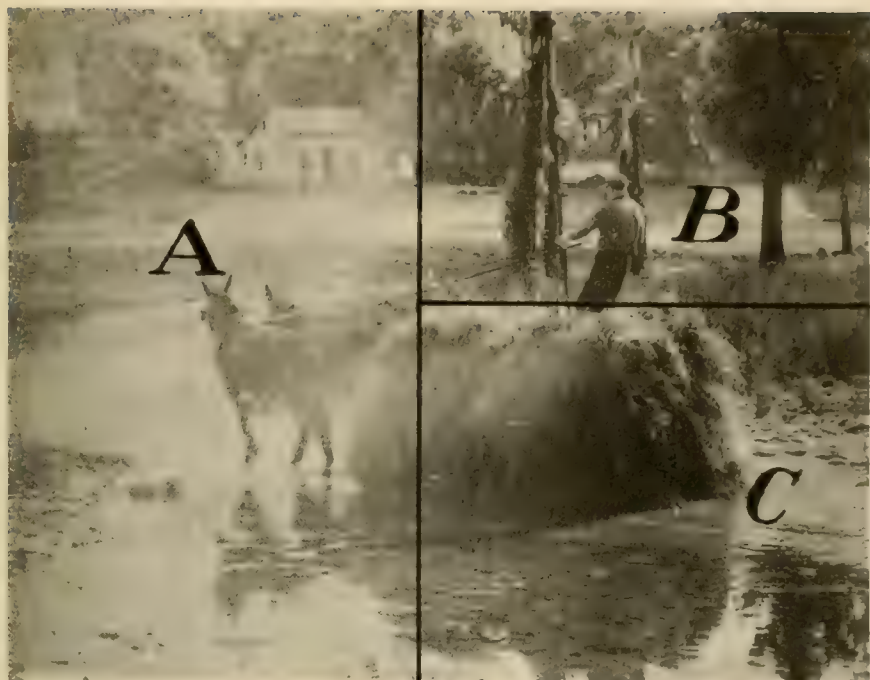


Fig. 1

necessary to keep the print moist but it does serve as an adhesive for the print which, if placed direct upon the glass has a tendency to slide around or emit water at the edges when brush work begins. Water reaching the brush results in spotty work.

A small piece of glass or an old negative, is used as a palette to hold the ink. Apply a quantity of hard ink about the size of a pea which should be spread out with a palette knife in a thin layer about two inches in diameter. This layer of ink forms the "feeding" patch from which the brush is charged at intervals. After dabbing brush on the ink patch it must then be tapped on another portion of the glass to remove excess pigment and distribute it evenly on ends of hairs only. Inking a bromoil is not like painting a house so keep in mind that only a very little ink is required on the tips of the hairs. Too much ink means loss of fine detail, smudged whites and blocked shadows and to top it all the print has a grainy effect which is entirely foreign to real bromoil work. It is amusing to hear of photo workers who use paper negatives to get the effect of bromoil grain as this process shows no such effect if properly made. Too much ink leaves a heavy deposit in the shadows which presents a sheen by reflected light and a procedure known as "defatting" is then resorted to in order to clear off this greasy effect. Defatting consists of floating the print face down in such as benzine to dissolve the excess binder in the ink thereby eliminating the objectionable appearance. Defatting is a tricky job and often results in a damaged print. Refrain from inking too heavily and defatting will never be necessary.

With the wet print deposited face up on the glass plate and blotter.



Fig. 2

remove *all* surface water by the use of filter paper and dabbing with a clean cloth. A cloth alone can be used but requires more time. By sighting at an angle with reflected light it is easy to determine when all water patches have disappeared. Any wet spots that remain are sure to cause trouble so be sure elimination is complete.

Having charged the brush very lightly with ink as described above, proceed to apply it to the print by holding brush handle at the very tip and performing up and down strokes at the rate of about ten per second. The image will appear in a very light tone and it is best to continue over the whole print previous to any attempt to build up for a stronger deposit. The result of this first, light application of ink produces the result as shown by Figure 1, section "A". A second light application strengthens the image as indicated by section "B" while the full tone produced by a third inking appears in most of section "C" of the same illustration. If the worker is satisfied with straight inking or the print is such that needs no modification, the final uniform inking will result as in Figure 2.

To my taste, the picture used with this text is subject to modification; therefore another inking is applied to most shadow portions while highlights are "hopped". Hopping consists in using a clean brush, dropped on the print from the height of one inch and caught on the rebound. A little practice soon allows this hopping to be done at the rate of four to eight strokes per second which allows clearing of whites or weakening half-tones and shadows to suit the idea of the worker. While it cannot be expected that a half-tone reproduction will show every modification I feel sufficient difference is to be observed by comparing the straight



Fig. 3

inking as applies to Figure 2 and the modified work of Figure 3. On the latter, shadow portions such as foliage, shadows on the lawn, etc., have received extra ink. Highlights on foliage, lawn, house, and water have been hopped and brightened. Sweeping, light strokes of a dry brush along the winding road beyond the creek have brought it into greater prominence.

In addition to application of more ink, always a light coat however, the process of hopping, the use of a small pointed stick with wet cotton to clear or sharpen small highlight detail, gives the worker a wide range of modification or correction. Many a picture, worthless as a straight bromide, can be worked up in bromoil not only as a presentable result but often as a very fine print.

Among the avenues of control is the matter of sky, very often solid white or at times grey. With a proper conditioned print the white sky will hold in the bromoil but a little soft ink will soon make it almost any shade darker as desired. A grey sky will take sufficient of the regular ink to be ready for modification. The effect of clouds can be worked in by hopping or if a pronounced effect is required a wad of damp cotton will remove the ink and leave a pure white space. Such procedure often results in an effect too prominent but is easily toned down by means of a clean or nearly clean brush applied with a soft motion.

Hopping, applied generally and to excess, results in a weak, grainy effect with loss of quality and poor appearance. Such a result is indicated at section "D", Figure 4. Too much ink on the brush ends in a lifeless, smudgy effect shown by section "E" with grain, poor whites and



Fig. 4

blocked shadows. Ink that is too soft produces a different effect of lifeless image together with a soiled, dull appearance as rendered by section "F" composing the lower half of the illustration.

Inking in general is best accomplished by a brush proportionate to the size of the print. For 8x10 or larger a brush with inking spread of about two inches is best. A smaller size can be used but requires too long to cover the print. A brush with about one inch spread is satisfactory for prints smaller than 8x10 but regardless of size at least one extra brush should be at hand for clearing or hopping. The half-inch and three-quarter inch are useful as hopping seldom is necessary over a large area and in addition the smaller section requires a brush of such size as not to overlap and remove ink that should remain. Brushes smaller than half-inch have so little weight as to be practically useless for hopping.

The above discourse is general and should be of assistance to start a beginner on his way or to clear up some difficulties of those who have tried the process with results not entirely satisfactory. Using the materials, formulae and procedure as outlined gives the worker something tried and proven by years of bromoil work. I have found bromoil work not only satisfactory by this method but exceedingly fascinating. There is the satisfaction of producing an individual, controlled, result somewhat akin to the artist's picture made with brush, pen or pencil and the monotony of straight printing is eliminated. After one has mastered bromoils it is a mere stepping stone to the transfer which to me is far more interesting and beautiful. Instructions regarding the production of prints by this process will be presented in the next issue.

Cinema Section

Edited by

William A. Palmer

Setting Up For Titles

WHEN one sets out to make his own movie titles he always has the problem of setting up the camera in close proximity to the title board or card so that the title is properly centered and the lens is focussed accurately. Because the regular finder of the camera is worthless when working at such close range and the focus must be set to fractions of a foot distance, we must resort to means other than the finder and focussing scale to insure good results.

Some time ago in these pages there was described a method of securing an accurate centering of title cards by trial. (Cinema Section, June 1934). This method was suggested for use on a permanent title stand to which the camera could be attached at any time and be in perfect adjustment once the trial photographing of the alignment chart was carried out.

This month we are suggesting a system whereby absolutely accurate title centering and focus for any size card at any distance can be accomplished with very little trouble. It is applicable to any camera which has a film gate with the pressure plate on the back of the film. That is, a gate having a stationary plate in which the frame or aperture gate is cut and a spring tension plate on the back to hold the film up against the aperture.

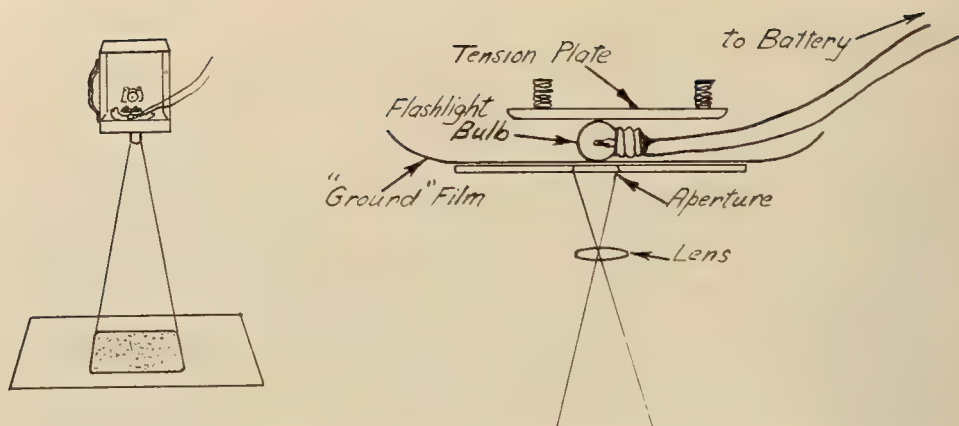
Taking a Tip from Projection

This system of aligning and focussing the camera for titles receives its inspiration from projection equipment. The moving picture camera and projector are really very similar in principle, each having a lens placed in front of a gate through which the film passes. In the camera, light reflected from a subject passes through the lens and is formed as an image of the subject on the film. In the projector, light from the projector lamp passes through the image of the subject on the film, through the lens to the screen, reversing the operation of the camera. There is no difficulty in centering the beam of the projector on the screen and securing proper focus, for one can see plainly, in the darkened room, just how to shift the projector. The focussing is also simple, for one has only to rotate the lens until the pictures are sharp and clear.

Now, since the camera is so similar in construction to the projector, there is no reason why we can't turn the camera into a projector temporarily so as to avail ourselves of the ease of centering and focussing that characterizes projector set up. This, then, is the procedure that we can follow:

The camera is set up in a room which can be darkened.

It is placed in approximately the correct relation to the title board. (Let



Left: Sketch of general set up. Right: Detail showing insertion of flashlight bulb and "ground" film in camera gate.

us say here that we prefer a vertical set-up, camera pointing straight down and title board horizontal). An hour or so spent on a bit of carpentry work making a title stand of some sort such as that described in the June, 1934 or December 1934 issues of the Cinema Section is well justified.

A piece of white card is thumb-tacked to the title board to act as the temporary projection screen. This card should be larger than the title cards that one intends to use. The empty camera is then allowed to run down so that the shutter may be opened. If in running down the spring motor, the camera does not happen to stop with the shutter open, the desired result can be accomplished by holding the starting button down and giving the winding key a few slight turns to rotate the shutter slightly until it is in an open position.

Then a flashlight bulb is obtained and short wire connections are made to it so that the bulb may be lighted by a dry cell. A socket need not be used, for the wires can be soldered directly to the lamp base, one to the outer screw portion and the other to the center tip. The main idea is to have the small bulb unencumbered so that it may be slipped into the camera aperture when the gate is opened. A piece of translucent "ground" leader film is placed in the film gate and the flashlight bulb placed behind it.

Now the lights in the room are turned out and we have our camera acting as a projector. The light from the flashlight bulb passes through the "ground" film, is diffused, passes through the lens and falls on the white card on the title board. By manipulating the focussing mount of the lens, one can get the focus accurately by watching the grain of the "ground" film, making it appear sharp on the white card. The outline of the camera aperture is also very easy to see. This outline can then be traced with pencil upon the white card and so long as the camera is not moved the outline will be an accurate indication of the camera field. The camera should be locked in position so that it will not be moved when the spring is wound.

When the camera is fixed up to project, the title board can be moved to and from the camera to give any size field for any size title card. The focus

can be re-adjusted for any new position just as easily as the focus on the projector.

Having outlined the limits of the camera aperture on the title board, the lights in the room may be turned on, the flashlight bulb and "ground" film removed, and the camera loaded. If the white card on the title board is cut out with a sharp knife or razor blade along the outline of the aperture, it will form a mask behind which the title cards, bearing the lettering, can be slipped. Remember, there should be plenty of margin left between the title lettering and the outline of the camera aperture, for when the film is projected, the aperture of the projector cuts in on this outline.

Title Illumination

Of interest to all title makers is a new electric light bulb which has recently been placed on the market by the General Electric Co. It is known as the Lumiline bulb and is a cylindrical glass tube having a filament in a linear form. The tube gives a line source of light and is therefore very much more suitable than the conventional bulb for applications where an evenly distributed light is essential. For title illumination, four of these tubes placed above each of the four sides of the title card will make an ideal arrangement. The tubes must be shielded from the camera, of course. If one uses the system of translucent titles with transmitted light from below the title board, (See December 1934, Cinema Section) the Lumiline tubes are also ideal. A group of these tubes placed side by side will give almost a solid block of light.

Title Lettering

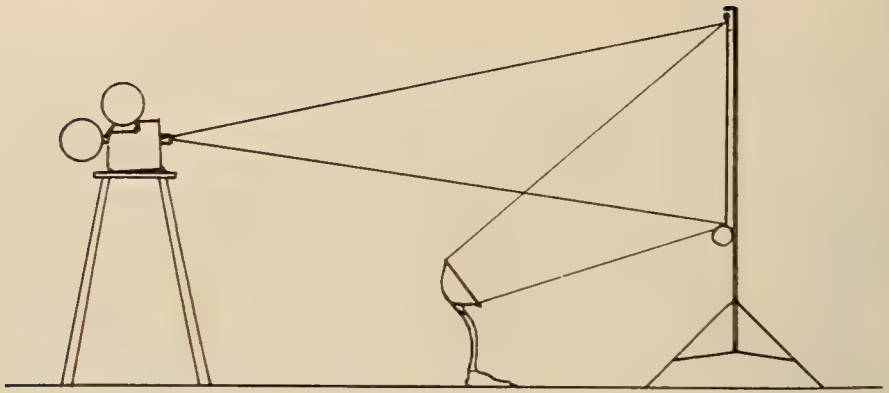
Before leaving the subject of title making we feel that it is necessary to endorse the use of a lettering guide for hand lettering. There have been several styles and makes of these lettering guides placed on the market. Ordinarily they are used by draughtsmen and show card letterers, but they are ideal for the title maker, enabling him to make perfectly formed letters regardless of his native ability to control his hands. The guide does all the controlling for him.

The guides are made in several different sizes and are designed to make a simple gothic letter in a vertical or sloping style. This is a very plain and easily read style of letter and is ideal for motion picture titles. If one wishes to have more embellished letters, he can alter the simple guide-produced letters after they are made by adding serifs.

The guides may be purchased at any dealer in draughting equipment and supplies, and at many stationery stores.

Adding Color To Black And White

THESE days when we often project natural color and black and white films one after the other, perhaps spliced into the same reel, we notice that the black and white pictures seem awfully cold after the gorgeous color. Fur-



*Set-up For Flooding Screen with
dim, colored light.*

thermore, even though the new color processes need no special filters over the projection lens, it is desirable to have more light on the color film than the black and white to show the colors to the best advantage. We therefore have fitted a color wheel to our projector so that we can tint the black and white films to relieve the cold feeling of the straight black and white after a color sequence. The color wheel is one having five sections four of which are filled with colored gelatin, the fifth being left clear. The following colors are used: Straw (yellow), Pink, Green, and Blue. The gelatin, besides giving a pleasing tint to the scene, tempers the amount of light reaching the screen so that the color films appear more brilliant by contrast. This idea has worked out so successfully that we recommend it wholeheartedly. The color wheels can be purchased at any cine dealer. (Some manufacturers make a similar device in a different form) or they can be made with little difficulty. The colored gelatin (Cellophane can be used also) should be of a light tint and free from smudges and wrinkles. If one does not want to go to the trouble of constructing a wheel for several colors, he can mount a single gelatin in ring like a camera filter and slip the unit on the projection lens while showing the black and white film.

An added trick which we have used to keep our black and white films from suffering too much in contrast to color is the flooding of the screen by a dim light of a color different from that of the colored gelatin over the lens. The result is a combination tinting-toning effect. This flood light is obtained by a ten watt colored mazda bulb placed in the reflector of an ordinary reading lamp. The lamp is placed on the floor about four feet in front of the screen and controlled by a switch in the cord which is brought back to the projector. When this flood light is on, it tones the shadows of the scene one color while the gelatine over the lens tints the highlights another color. Any combinations of colors can be used but we prefer a blue light for the flood and a yellow or pink gelatin for the highlights. The effect of the colored flood light in combination with the clear white highlights, with no gelatin over the projector lens, is also pleasing particularly when titles are being shown.



"Portrait"

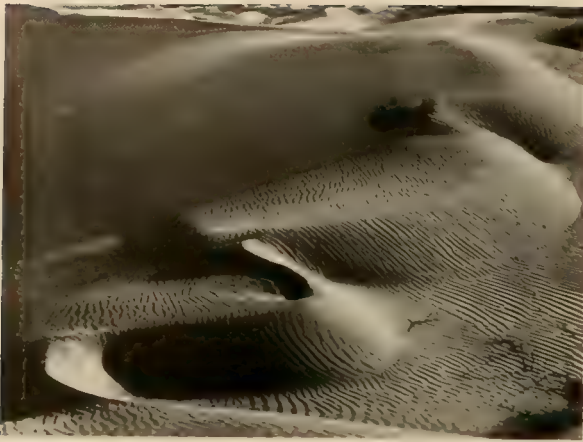
S. J. Silverstein

Advanced Medal Print

■ So far as we can recall this is one of the smallest prints ever to win a major prize in these competitions. We reproduce it "same size" because it is one of those things which demand to be kept small, as Mr. Silverstein has obviously recognized. Unfortunately it is bound to lose considerably in the reproduction, not only because the red-brown tones of the solio print are difficult for the engraver to handle, but also because the color is an intrinsic part of the charm of the original print. Our advice is to watch for it when Group VII of the Camera Craft Traveling Salons reaches your community.

This picture impresses us as being one of those rare things that are just right. It has all of the delicate charm that one associates with a well done miniature painting, and yet is at the same time definitely photographic in quality. The modeling of the head conveys a roundness and solidity of form that is truly superb. The closed eyes lend an impersonal quality to the picture and at the same time permit the attention to focus without hindrance upon the beautiful profile.

Data: 5x7" view camera; Hyperion lens; 1 sec. at F:6.3, by one 1000 W light and one 500 W. light; Defender Pentagon film, in M. Q.; contact print on Solio printing out paper 3x4" prints on 11x14" mounts may be obtained at the price of \$8.00, on application to Camera Craft.



"Wind-Etched Sand"

E. W. Blew

■ Without the proof of this picture one might well imagine that a leading line that would fit into a composition so perfectly, and move through the picture space with such interesting rhythmic grace, could only be found in that Paradise of which Pictorialists dream. Here it is nevertheless, with even the two bushes which constitute desirable accents placed just right.

We had several fine sand dune pictures in this month's group from which this one was selected as the best. The judges deplored the lack of shadow detail in all of them, although this one suf-

fices very little in that respect since the deep shadow areas are small. It might be well to state the problem which pictures of this type present. Aside from the strong leading line the principle interest lies in the texture and surface convolutions of the sand in the strongly illuminated areas, that is in the light passages. Further in order to bring out this surface quality we must photograph with a low angle of light, which means that the shadows receive a minimum of illumination. Considering only the light passages it is evident that we are dealing with a subject of short scale, and that a maximum of tone separation is desired. This means a minimum of exposure and full development. Considering the subject as a whole however we find a fairly long scale of values. Consequently the best treatment for the light passages results in under exposed, blank shadows. There is room for some compromise between the extremes stated here, but

(Continued on Page 617)

Third Award
Advanced Class

■ Mr. Wallace offers us a lovely face in which he has caught a most appealing, wistful expression. His title conveys little so the observer is left to make his own interpretation of the picture. Some may insist on considering the dress as a peasant costume, and if so may raise the objection that the delicacy of the face does not seem to be in keeping with such a theme. We cannot agree with such an interpretation. In the first place the apparel need not indicate the peasantry, for many other types of people might wear such dress, even in a present day American city. Further we do not attach any particular significance to the costume. We rather imagine that Mr. Wallace used it primarily as a technical device to isolate the face and concentrate the attention on its expressive qualities. The lighting he has used supports this contention, for observe that the apparel is definitely subordinated throughout.

Data: 5x7" Studio camera; 16" Vitax lens; 1 sec. at F:8, on S. S. Pan., by artificial light; Dasselville Charcoal Black B.



"Portrait"

Don Wallace, A.R.P.S.

Fourth Award

Advanced Class

■ By means of a clever combination of lighting and camera angle Mr. Wright has produced a most interesting and exciting composition, that certainly lives up to its title. We cannot recall a still life subject which had anything like the feeling of swirling movement that is evident in this picture. It fairly makes one giddy to look at it. In looking at this picture one should not pay too much attention to the subject matter as such. For the subject matter is not utilized because it is deemed to have any particular interest in itself, but primarily to obtain the lines and masses which go to make up the composition. That is to say that the subject matter is handled abstractedly, using the term in a limited sense; the emphasis being placed on the composition and not on the intrinsic qualities of the object shown. This was not at all an easy composition to work out, and we feel that Mr. Wright has handled it most skillfully. To our eye there is only one small weakness. This lies in the area at the edge of the print and to the left of the tumbler. The extreme high key of this area coming as it does on the edge of the print offers the eye an opportunity to slip out. If only just a faint tone could be carried around the outer extremity of this area our objection would be well taken care of.

Data: 8x10" Eastman Universal; 13" Turner Reich lens; 15 secs. at F:45, on Com'l Pan., in Metol-Pyro; Defender Veltura. 8x10", or 11x14" prints on 16x20" mounts may be obtained at the price of \$5.00 on application to Camera Craft.



"Movement"

George Wright



"Portrait of a Cat"

Fred G. Korth

its kind that we have seen in some time. Those who follow this department will have noticed the superb technical quality that is evident in all of his pictures. The present print is notable because of the terrific impact of the brilliant eyes and because this intimate and revealing view of a common pet affords a certain intellectual and emotional pleasure.

Data: 5x7" Deardorff; 24 cm. Schneider Xenar; Photoflash exposure at F:16; S. S. Pan., in D-76; Agfa Brovira in D-72. 11x14" prints on 16x20" mounts may be obtained at the price of \$6.00 on application to Camera Craft.

Fifth Award

Advanced Class

■ Amateurs who have been told that if they hope for success in salons they must make prints with "carrying power" have often inquired as to just what was meant by the term. If any are still in doubt let this print serve as an example of a picture which has that quality in an unusual degree. These eyes will command an observers attention under any conditions. This is the third time within the past few months that we have had the pleasure of reproducing one of Mr. Korth's excellent photographs. His "Hark! A Lark!" was one of the finest things of



"Winter Wonderland"

Rembert G. Allen

Amateur Medal Print

■ Almost everyone who has seen this picture in our presence has instantly remarked about the lovely arrangement of tree forms which Mr. Allen has obtained. What are the factors that make for pleasing arrangement of such material? Only three general propositions may be laid down. First that the horizontal distances from the edges of the print into the trees, and between the trees themselves should be varied, so as to avoid monotony in the arrangement. Second there should be a subtle yet evident grouping of the trees so that one tree or one group of trees dominate the whole. Third it will generally help if there is a definite opening in the row of trees through which the eye, or the imagination may travel into the distance beyond. In this print the relative spacing between the group of four trees might be varied just a little more than is now the case, but observe that these four trees are seen primarily as a group, and that consequently the important horizontal distances here are from the left edge of the print to the first tree; from the fourth tree from the left to the large tree, and from the large tree to the right edge of the print. Each of these distances are pleasingly varied. As for our second and third points observe that the isolation of the large tree and its position in the picture space definitely sets it up as the dominant object, and that the space between the group of trees and the large tree provides an opening through which even the most laggard imagination must travel into the distance beyond. The important thing to remember is that such delightful arrangements as this do not simply fall into one's lap, but are obtained by paying the most careful attention to camera position, in both directions. Seemingly slight movements of the camera to right or left, or to and from the subject, or by changing to a longer or shorter focal length of lens, will radically alter the composition.

A sight darkening of the shadows in the immediate foreground would add to the already fine sense of aerial perspective.

Data: Leica D; 50 mm. lens; 1/30 sec. at F:6.3, at 1 P.M. in bright sunlight; E. K. Background Film, in Sease No. 3 (p-phenylene-diamine-glycin); Bromoil print on Defender Velour Black DD.

Second Award

Amateur Class

■ Mr. Jerabek has made nice use of back lighting and the curving forms of the walk in this interesting picture. Notice how important to the success of the picture is the single isolated figure. This figure breaks up what would otherwise be a rather monotonous series of curving lines running into the print. We see two weaknesses which can be easily corrected. First the expanse of sidewalk is rather monotonous because of its size and because the shadows cast upon it are not strong enough to overcome that feeling. Second the sidewalk appears to slope downward toward the lower left corner due to the darkening of both highlights and shadows in that area. Both of these weaknesses can be eliminated by trimming in from the left about one-third of the distance from the edge of the print to the isolated figure, and up from the base about one-half the distance from the base to the lower edge of the iron fence. This trimming has the further advantage of placing the isolated figure in a stronger position in the picture space.

"The Bear's Cage"

Richard Jerabek

Data: Leica; 50 mm. Summar; 1/40 sec. at F:6.3, on Agfa S. S. Pan., in P-Diamine-Glycin; Bromoil print on Defender Velour Black EP, developed in Amidol.

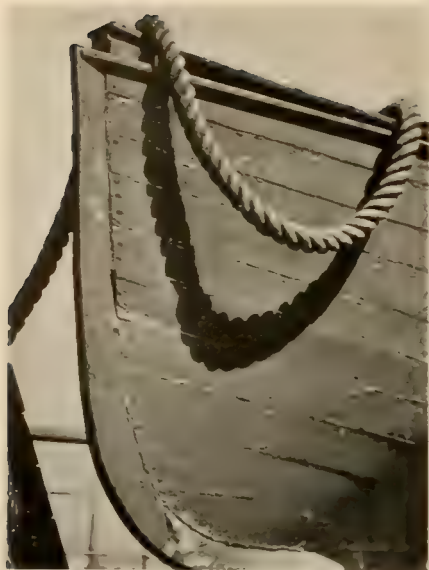


"Moonlit Bay"

Dr. Herbert Antoine

were placed lower down the expanse of sky would then seem redundant. We do feel however that it would be better to subdue the brilliance of the moon in the print to a considerable extent. Such a small bright spot in such a large dark area has tremendous power and consequently calls more than its proper share of attention to itself. Because of its advantageous situation this spot can be reduced much below its actual brightness value and still seem quite natural in the print.

Data: Pupille; 50 mm. Elmar; 20 secs. at F:3.5, on S. S. Pan., in DK-76, by moonlight; Dassonville Charcoal Black B, in Amidol. 8x10" prints on 14x18" mounts, or 10x12" prints on 16x20" mounts may be obtained at \$3.50 and \$5.00 respectively, on application to Camera Craft.



Lifeboat"

M. L. Melville

mins. in D-7; Defender Velour Black DL, 2 mins. in D-72. 8x10" prints on 14x18" mounts may be obtained at the price of \$3.00, on application to Camera Craft.

■ This picture will delight those who revel in the superlative rendering of textures and severely simple arrangements of form. Technically this print leaves virtually nothing to be desired. Unlike a number of his contemporaries who are working in the same vein, Mr. Melville takes care to keep his shadows beautifully luminous, which practice meets with our hearty approval. The dark accent of the board in the lower left corner is, of course, essential to the composition. The vague lines which appear behind it are unfortunate for they cause the eye to wander into the vista beyond (where there is nothing to see) while the very nature of this picture demands that the eye be held strictly upon the foreground material. There should be nothing but a luminous sky, possibly a shade darker in tone, for a background. A narrow black border would help.

Data: Graflex; Zeiss Tessar lens; 1/10 sec. at F:22, on Defender X.F. Pan.; 10

Fifth Award

Amateur Class

■ If one were judging this group of prints solely on the basis of how completely and skillfully each photographer has accomplished what he set out to do it is safe to say that this print would deserve first place. The picture is technically excellent and we, at least, find it peculiarly interesting to at last have an opportunity to see what our old enemy the house fly really looks like. The picture is hardly "Pictorial" in the accepted sense of the term, but it certainly goes beyond straight record photography. Perhaps we might say that it is revelatory, meaning that it gives us a closer, more revealing look at things than is possible with the eye alone. Mr. Mortensen in discussing a group of German photographers used the term Meta-Realism, and that might also apply here. We should not overlook the fact that pictures of this nature may also become "Pictorial" if they present an idea and something more of a planned arrangement of form along with their revelations. Mr. Trafton has not attempted that so this last is not intended as criticism of the present print.

Data: 3¼x4¼ Graflex; 30 sec., on Agfa S. S. Pan., in D-76, by two 100 W. lamps; Agfa Brovira Rough in M. Q. 8x10" prints on 14x18" mounts or 11x14" prints on 16x20" mounts may be obtained at the prices of \$2.00 and \$3.00 respectively, on application to Camera Craft.



J. K. Trafton

Monthly Competition

New Feature Added To Competitions

In recent months we have been impressed with the growing number of inquiries which we have received asking if such and such a picture seen in Camera Craft might be purchased and if so at what price. Camera Craft feels that Photography would benefit greatly if both the public and photographers became accustomed to purchasing fine photographs for private collections, just as this is done by groups which are interested in other mediums. To that end we offer the contributors to these competitions the opportunity of stating a selling price on the backs of their prints, and whenever supplied this selling price will be printed along with the technical data which accompanies each of the prints reproduced. Thus whenever a reader is interested in one of the pictures he will know the cost of obtaining a print without taking the trouble to inquire. We are aware of the fact that a certain percentage of photographers are not interested in selling prints. We ask that these individuals state on the back of their prints "Not For Sale," for this information will occasionally save considerable correspondence. No commission of any kind will be taken. **Camera Craft's** function will be to publicize the fact that certain prints may be purchased, and to place the interested parties in contact with each other. **Remember then:** If you are willing to sell prints, please state a selling price on the back of each print sent to the competitions.

To obtain prints simply send your check to **Camera Craft**, 703 Market St., San Francisco, for the amount indicated made out either to **Camera Craft** or to the name of the photographer. Please give title of picture, name of photographer, and the page number and issue in which you saw the picture.

"Hark! A Lark!" Proves Popular

We have received a number of inquiries as to whether prints of "Hark! A Lark!", by Fred G. Korth, which appeared as first prize, on page 502 of our October issue, might be obtained. In line with the policy outlined above we state that 11x14" prints on 16x20" mounts may be obtained at the price of \$6.00, on application to **Camera Craft**.

Scoring for Club Trophy Cups

The following won points for their clubs in the Advanced Class: Fred G. Korth, S. J. Silverstein, Don Wallace, and George Wright, for the Fort Dearborn Camera Club; E. W. Blew, for the Los Angeles Camera Club.

The following won points for their clubs in the Amateur Class: Dr. Herbert Antoine and J. K. Trafton, for the Golden Gate Miniature Camera Club; M. L. Melville, for the Photographic Society of San Francisco; Rembert G. Allen and Richard Jerabek, for the Washington Pictorialists.

Final Standing of Clubs

Large Clubs Advanced Class

Fort Dearborn Camera Club.....	39
Los Angeles Camera Club.....	35
Camera Club of Ottawa.....	19
Photographic Society of San Francisco	16
Pictorial Photographers of America.....	14
Montréal Camera Club.....	10
Telephone Camera Club of Manhattan..	8
Miniature Camera Club of New York....	7
American Society of Cinematographers	1
Toronto Camera Club.....	1

Small Clubs Advanced Class

Erie Camera Club.....	5
Monterey Peninsula Camera Club.....	4
Japanese Camera Club.....	3
Baltimore Camera Club.....	2
Camera Art Circle.....	2
East Bay Camera Club.....	1

Large Clubs Amateur Class

Photographic Society of San Francisco	42
Golden Gate Miniature Camera Club....	17
Schenectady Photographic Society.....	10
California Camera Club.....	9
Miniature Camera Club of New York..	5
Los Angeles Camera Club.....	3
Camera Club of Ottawa.....	1

Small Clubs Amateur Class

Washington Pictorialists	27
Hamilton Camera Club.....	11
San Jose Camera Club.....	8
Camera Club of Richmond.....	5
Cleveland Central Y.M.C.A. Camera Club	3
Whittier Camera Club.....	3
Monterey Peninsula Camera Club.....	2



The Winners

Large Clubs—Advanced Class

Fort Dearborn Camera Club, Chicago, Ill.

Small Clubs—Advanced Class

Erie Camera Club, Erie, Pa.

Large Clubs—Amateur Class

Photographic Society of San Francisco, San Francisco, Calif.

Small Clubs—Amateur Class

Washington Pictorialists Washington, D.C.

The End—The Beginning

For the second time we reach the annual conclusion of the scoring for the Club Trophy Cups. We are happy to report the figures show that club participation in these competitions has been almost twice as great in 1935 as in 1934. This year a total of 60 clubs competed as compared to 37 last year, and 30 clubs achieved the scoring column instead of 18. All indications point to an even better and more enthusiastic response in 1936. Remember scoring starts with the January competition the closing date for which is December 4th, 1935.

The Winners

The final standing of clubs discloses one surprise in that the Fort Dearborn Camera Club, by staging a lightning finish has passed the Los Angeles Camera Club which has led the scoring in the Large Clubs—Advanced Class division most of the year. Much credit for this achievement must go to Fred G. Korth who aside from sending in some remarkable prints of his own, staged a Paul Revere act and rounded up no less than 27 prints for the December judging. This resulted in the Fort Dearborn Camera Club accomplishing the astounding feat of taking four of the five awards in the Advanced Class, giving them four points more than the total for the Los Angeles Camera Club. We look forward to a spirited race between these two clubs next year, with the Los Angeles boys out for revenge. This year all four of the cups will be the same size, (see illustration) on the theory that each of the four groups work equally hard and are deserving of equal reward. The winning clubs are listed above. Our congratulations to each of them upon an achievement of which they may be justly proud.

CAMERA CRAFT

Contributing Clubs For The Year

- Aluminum Camera Club (New Kensington, Pa.)
- Amateur Camera Club of Buffalo
- American Society of Cinematographers
- Artisans Camera Guild (Los Angeles)
- Bakersfield Camera Club (Calif.)
- Baltimore Camera Club
- Bellingham Camera Club (Wash.)
- Bessemer Park Camera Club (Chicago)
- Blue Bell Camera Club (Detroit)
- *Boulder Lens Club (Colo.)
- *California Camera Club
- *Camera Art Circle (Bombay)
- Camera Associates of Huntington (W. Va.)
- Camera Club of Ottawa
- Camera Club of Richmond (Va.)
- Camera Club of Syracuse Y.M.C.A.
- *Camera Pictorialists of Bombay
- Cleveland Central Y.M.C.A. Camera Club
- Cleveland Photographic Society
- *East Bay Camera Club
- *Erie Camera Club (Pa.)
- *Fort Dearborn Camera Club (Chicago)
- *Fresno Camera Club (Calif.)
- *Golden Gate Miniature Camera Club (San Francisco)
- *Hamilton Camera Club (Canada)
- Hartford County Camera Club (Conn.)
- *Honolulu Camera Club
- *Huntington Park Camera Club
- *Japanese Camera Club (San Francisco)
- Lens and Shutter Club (Cleveland)
- *Lone Wolf Club (N. H.)
- *Los Angeles Camera Club
- *Miniature Camera Club of Chicago
- *Miniature Camera Club of New York
- *Miniature Camera Club of Oakland (Calif.)
- *Monterey Peninsula Camera Club (Calif.)
- Montreal Camera Club (Canada)
- Nashville Camera Club (Tenn.)
- Norfolk Photographic Club (Va.)
- Oregon Camera Club (Portland)
- Palo Alto Camera Club (Calif.)
- *Peoria Photo Forum (Ill.)
- *Photographic Guild of Philadelphia
- *Photographic Society of San Francisco
- Pictorial Photographers of America
- Pictorial Photographers of Victoria (B. C.)
- *Queens Camera Club (Flushing, N. Y.)
- *Reading Camera Club (Pa.)
- Regina Y.M.C.A. Camera Club (Canada)
- Saginaw Camera Club (Mich.)
- *San Jose Camera Club (Calif.)
- *Schenectady Photographic Society
- Seattle Photographic Society
- St. Joseph Camera Club (Mo.)
- St. Paul Camera Club
- Telephone Camera Club of Manhattan
- Toledo Camera Club
- Toronto Camera Club
- *Utica Camera Club
- *Washington Pictorialists (D. C.)
- Whittier Camera Club (Calif.)

* Denotes clubs competing in December Competition.

(Continued from Page 610)

if highlights or shadows must be sacrificed the shadows are the obvious choice since the whole success of such pictures depends upon a superlative rendering of the light passages. The real solution lies in patiently awaiting a day in which the light is strong enough to have definite direction but still sufficiently diffused, due to a slightly overcast sky, to permit light to "soak" into the shadows. Mr. George H. Phillips' picture which appeared on page 451 of our September issue, and which may be seen in Group VI of the Camera Craft Traveling Salons, may serve as an example of a shot which appears to be made under this kind of illumination.

No data. 11x14" prints on 16x20" mounts may be obtained at the price of \$10.00, on application to Camera Craft.

Advanced Competitors

- G. D. Beer, Los Angeles, Calif.
- H. C. Benedict, Berkeley, Calif.
- *E. W. Blew, Whittier, Calif.
- R. Creer, Chicago, Ill.
- Fred E. Crum, Spring Valley, N. Y.
- Evelyn Curtis, Oakland, Calif.
- M. K. Curtis, Oakland, Calif.
- A. B. De La Vergne, Denver, Colo.
- M. Desai, Bombay, India
- James Emmett, Jr., Hinsdale, Ill.
- Alvin Louis Fischer, Chicago, Ill.
- Beauford B. Fisher, Pacific Grove, Calif.
- Charles Gratz, Pasadena, Calif.
- Jack Hazelhurst, Chicago, Ill.
- Lionel Heymann, Chicago, Ill.
- A. L. Hill, Los Angeles, Calif.
- V. E. Johnson, Chicago, Ill.
- W. F. Kelley, Chicago, Ill.
- Kichiji Kojimoto, San Francisco, Calif.
- *Fred G. Korth, Chicago, Ill.
- James S. Lawshe, Los Angeles, Calif.
- L. H. Longwell, Chicago, Ill.
- William Lyon, Harvey, Ill.
- Joseph Margraff, Chicago, Ill.
- R. H. Menz, Chicago, Ill.
- Bob Minnick, Los Angeles, Calif.
- D. Ward Pease, Chicago, Ill.
- M. Arthur Robinson, Honolulu, T. H.
- A. W. Servatius, Utica, N. Y.
- H. K. Shigeta, Chicago, Ill.
- R. Owen Shrader, Pasadena, Calif.
- *S. J. Silverstein, Chicago, Ill.
- Dr. Max Thorek, Chicago, Ill.
- K. Wakasa, San Francisco, Calif.
- Paul W. Wall, Chicago, Ill.
- *Don Wallace, Chicago, Ill.
- William E. Wing, San Francisco, Calif.
- *George Wright, Chicago, Ill.

* Denotes prize winners.

Amateur Competitors

- *Rembert G. Allen, Washington, D. C.
- Arthur W. Ambler, New York, N. Y.
- Ralph H. Anderson, Yosemite National Park, Calif.
- *Dr. Herbert Antoine, San Francisco, Calif.
- F. M. Beckett, San Jose, Calif.
- Dale Martin Bender, Milwaukee, Wisc.
- Dwight Bentl, San Jose, Calif.
- Rudolph A. Berger, San Jose, Calif.
- W. W. Berry, Schofield Barracks, Honolulu, T. H.
- Lester H. Brubaker, San Jose, Calif.
- Robert N. Bushman, Schenectady, N. Y.
- Roland Calder, Berkeley, Calif.
- J. Owen Campbell, Norfolk, Va.
- L. Charles Smith, Washington, D. C.

Paul Cloud, Santa Cruz, Calif.
T. C. Crosby, Schenectady, N. Y.
Dr. James A. Cutting, San Jose, Calif.
Leonard Davis, Hamilton, Canada
Robert Desme, Brooklyn, N. Y.
A. W. Earl, Berkeley, Calif.
R. S. Fiedler, Peoria, Ill.
M. Friedman, New York, N. Y.
K. Furukawa, San Francisco, Calif.
Edward L. Gockeler, Saranac Lake, N. Y.
Barry Goldwater, Phoenix, Ariz.
Johanna E. Heim, San Francisco, Calif.
Miss Louise Hively, Charleston, W. Va.
J. W. Hubbard, Shafter, Calif.
J. A. Hultquist, Washington, D. C.
Floyd D. Hyde, South Bend, Wash.
L. S. James, Boulder, Colo.
David Jamieson, Hamilton, Canada
*Richard Jerabek, Washington, D. C.
S. A. Kalelkar, Bombay, India
Miss Thelma R. Kent, Christchurch, N. Z.
W. Raymond Kerr, Beaver Falls, Pa.
Loyde Knutson, Colorado Springs, Colo.
Helgi Larusson, Reykjavik, Iceland
A. Levin, Huntington Park, Calif.
A. H. Lomax, Hamilton, Canada
Eldredge Looney, Omaha, Nebr.
Charles Lorenz, St. Louis, Mo.
Louis Luh, Washington, D. C.
M. Margossian, Berkeley, Calif.
D. McKean, San Francisco, Calif.
*M. L. Melville, San Francisco, Calif.
Hubert W. Meyer, Schenectady, N. Y.
J. L. Michaelson, Schenectady, N. Y.
O. Mix, San Francisco, Calif.
Frank Marshall Moore, Chicago, Ill.
Alice Murphy, Clinton, Iowa
Donald B. Myers, Brooklyn, N. Y.
F. A. Northrup, Greensburg, Kansas
Harry E. Perl, Oakland, Calif.
H. J. Phillips, New York, N. Y.
W. B. Piers, Port Haney, Canada
John Poole, Santa Barbara, Calif.
A. W. Prasse, St. Louis, Mo.
Miriam Phair Rhine, East Orange, N. J.
Francis Neilson Rich, Troy, N. Y.
Paul Rowden, Colorado Springs, Colo.
Clara Beth Russell, Butte, Mont.
Ricardo Sacra, Jr., El Salvador, C. A.
J. H. Sammis, Peoria, Ill.
R. E. Schoenberger, Shaker Heights, Ohio
George Semonsen, San Francisco, Calif.
R. L. Seydel, Long Beach, Calif.
H. E. Sheffield, Cleveland, Ohio
John G. Shortridge, San Francisco, Calif.
Thomas N. Thomson, Hamilton, Canada
Leo Tiede, Santa Ana, Calif.
B. A. Timada, Peoria, Ill.
Lee Townsend, Oakland, Calif.
*J. K. Trafton, San Francisco, Calif.
A. H. Tweedle, Hamilton, Canada
F. C. Ward, St. Joseph, Mo.
Morgan W. Wickersham, Washington, D. C.
Edward Widdis, San Francisco, Calif.
Louis N. Willman, Washington, D. C.
James Wilson, Flushing, N. Y.
Dr. Michael Wisnegrad, New York, N. Y.
A. Wright, Philadelphia, Pa.

* Denotes prize winners.

Correspondence

About "Pictorial Lighting"

Dear Sirs:

I have just had the extreme pleasure of reading Mr. Mortensen's new book, *Pictorial Lighting*. It has solved a number of questions that have puzzled me for some time. It has also blasted a number of my pet theories with such violence that I was floundering for several days. I feel that we owe Mr. Mortensen a vote of thanks for making available knowledge that will prove invaluable to many of us. We must all "hitch our wagons to a star" and I believe that I have hitched mine to a star of the first magnitude when I say that it is my ambition to make a picture of Mr. Mortensen's quality. His new book has become my Bible.

Now, may I ask a few questions? On page 46, Mr. Mortensen makes reference to a Metol-Borax developer. We are referred to a second foot-note on that page and it seems to have been omitted in the printing. I am loath to miss a single word in the book so I would ap-

preciate knowing what that footnote is.

On page 48, Mr. Mortensen states that the film used is Orthochromatic with a Scheiner rating of 16°. Could you tell me the exact type and brand of film used and if the Scheiner rating of 16° is for sunlight or artificial light.

I have been a subscriber to *Camera Craft* for some time and believe it to be the finest magazine of its kind in existence. Now that I have studied *Pictorial Lighting* I have ambitions, so I would appreciate a copy of the rules governing the Print Contest.

Very sincerely,

HUGH J. MCGINNIS

The formula which should have appeared as a second foot-note on page 46 was omitted because of a printer's error which occurred after the final correction of the page proofs. An errata sheet containing the formula was included with all except the first three or four hundred books sent out. We print the formula be-

low and following that a letter from Mr. Mortensen answering one or two other questions regarding the material in the book.—Ed.

**Metol	177 grs	Mix, in order given, in water at 100° Fahrenheit Not to be diluted. Develop negatives one hour and a half, between 60° and 70° Fahrenheit.
Hydroquinone	153 grs.	
Sulphite	1 oz. 119 grs.	
Borax	2 oz.	
Water	1 gal.	

Dear Mr. Young:

Several inquiries have been made relative to a passage on page 48 of my book on Pictorial Lighting, in which is given an exposure table based on "Orthochromatic film of 16° Scheiner rating." Numerous correspondents have asked me to recommend a particular film that complies with these requirements. As most purchasers of the book are probably also readers of CAMERA CRAFT, this column seems an appropriate place to answer these questions.

The 16° Scheiner rating (to artificial light) was specifically mentioned because

a fairly slow Orthochromatic stock (such as Perutz Persenso) gives the best rendering of flesh half-tones under the lighting conditions described in the book. The table on page 48 (which, according to specification, is merely an approximation) is given sufficient latitude to take in films of 16°-20° Scheiner, to artificial light.

The term "Orthochromatic" signifies a film of a high degree of green sensitivity. This type of film is put out under various trade names by different manufacturers—Verichrome, Phenachrome, etc. The Eastman Agfa, Gevaert and Perutz Orthochromatic stocks serve equally well for the methods outlined in the book.

Question has been raised also about the "blue gray filter" mentioned in the footnote on page 34. Correspondents have asked me to give the exact number of Eastman or Wratten filter. The precise colour of the filter is of no importance as its sole purpose is to reduce the luminosity of the image, and it is only used as a viewing glass for the eye and not as filter over the lens. Therefore, a piece of gray gelatin or a smoked glass of medium density will serve equally as well.

Very truly yours,
WILLIAM MORTENSEN

Notes and Comments

Chromatone—A New Process for Producing Photographic Prints in Natural Colors

Ever since the practical adaptation of the discoveries of Fox Talbot and Daguerre a century ago, to the art and science of photography, the aim and ambition of those interested in its development has been the reproduction of colors. Natural color photographs have been produced by many methods, most of them having special adaptation to certain specific uses. As a result, has come a wonderful development in the graphic arts and in the production of motion pictures, so that the application of color photog-

raphy in those industries is well known to everyone.

It has been difficult, however, because of the essential complexity of all of the well-known color processes, to popularize color in photographs. Any color process is bound to be more or less complex, for the reason that the separation of the primary colors is definitely necessary to produce the desired results. Many transparency methods, such as Agfa, Lumiere, Finlay Color Plates, and Dufay-color Films, produce exceptionally fine results, as transparencies, and are extensively used as the basis for three and four color process work in printing and

lithography. Their limitation thus far has been the fact that photographic prints in duplication have been difficult. In other words, the user of these plates and films usually had to be content with the single original transparency.

Therefore, it has long been the aim of research to devise a method of making color prints on paper which would be practicable, not too difficult or expensive, and permit uniform, controlled duplication. This has brought about the Ives Polychrome Process; Carbro and other photographic printing methods successfully used by specialists, and for the most part very satisfactory.

Recently two young chemists, Francis H. Snyder and Henry W. Rimbach, in New York City engaged in scientific research, desired to reproduce color in photomicrographic work. They sought, as chemists, and not as photographers, a medium to give them a more realistic result in their micrographs than that obtained in black and white or by hand coloring. From their research came a complete system of photographic color toning that, for its simplicity, fidelity to nature, and positive results, appears to have sufficient possibilities to recommend it for general use.

This process has been designated The Chromatone Process, and is thus for the first time announced to the photographic world.

The Chromatone Process is a cooperative product; the toning methods and formulas having been developed by Francis H. Snyder and Henry W. Rimbach, of Francis H. Snyder, Inc., consulting chemists and engineers of New York City, and the Stripping Paper and its emulsion by Defender Photo Supply Co., Inc., of Rochester, N. Y. Exclusive production and sales rights for the United States and Canada have been acquired by Defender.

Photographic prints in natural colors, by a simple, certain, uniform method are now within the reach of everyone interested in or familiar with black and white photography. The Chromatone Process is as simple as it is reliable—a real photographic method of color toning, involving

no special equipment, no dyes, transfer sheets, special films. It is strictly a chemical process, relying for results upon positive reactions.

The method, briefly described, comprises making from either two or three color separation negatives, three positive prints on Chromatone Photo Print Paper (a gelatine-collodion stripping film), toning these positives to the proper color: magenta, blue-green and yellow, and superimposing them, in register, upon a white background or base. The result is the finished Chromatone print, a natural color photograph.

The simplicity of the manipulations, in which there is nothing essentially new or difficult to the worker experienced in black-and-white printing, indicates the possibility of wide application. When an amateur in photography, to say nothing of the professional, can with his own camera make Dupac or three-color separation negatives and from them obtain by himself or through his finisher, at minimum expense, satisfactory and pleasing natural color photographs, he is bound to experience a thrill of interest and admiration which he will long cherish and remember. All this is now possible through Defender Chromatone.

It is the intention of this announcement merely to explain the fundamentals of the process. The subject merits more comprehensive treatment. Hence, a 40-page booklet has been prepared, with illustrations in color, describing the method, explaining the theories of color photography, and giving complete instructions for the use and practical application of Chromatone. Because of the expense of publication, the booklet is nominally priced at twenty-five cents. It will be sent post-paid to any address, on receipt of a remittance for that amount.

To introduce the process and to give each interested person an opportunity to demonstrate for himself its possibilities, an introductory package has been prepared, which contains sufficient materials and solutions to make eight complete five by seven prints. This Chromatone Photo Print Package will retail for \$10.00 and

is now available at photographic supply houses throughout the United States.

While it is too early to predict the ultimate success of Chromatone for every sort of photo color-printing, Defender believes, and Camera Craft agrees, that it is making a big contribution to the evolution of photography, by offering to the photographers of America this latest development. It is a real step toward a realization of the ideals of every follower of Daguerre and Talbot.

For the booklet mentioned above or for other information write to Defender Photo Supply Co., Inc., Rochester, N. Y.

Pola-Screen Prices

In a foot-note to the article on the Eastman Pola-Screen which appeared in our November 1935 issue we stated that while price information was not yet available we were informed that the cost of a Pola-Screen of 3½" diameter would be in the neighborhood of \$125.00. We now learn that Eastman has not as yet determined manufacturing costs on this article but that the price as given is much too high. As soon as accurate prices are available Camera Craft will report them.

The Photographer-Hero

Photographers have been mildly surprised of late to find mythical members of their profession cropping up in the hero role in various pices of fiction. The Saturday Evening Post recently ran a couple of stories in which the miniature cameraman saved the day for some big metropolitan daily. Most recent addition to the growing list of photographic fiction appeared in the Nov. 9 issue of Colliers,—a story entitled The Perfect Model.

Writer Lawton MacLane apparently knows his photography, for at a crucial moment in the development of the "love interest" the hero is heard to remark to his infatuated secretary, who is also the "Perfect Model": "Better get some more of this Charcoal Black it's good. A dozen eleven-fourteen-Grade D." To which judgment we lend our hearty approval.

Print-In Backgrounds

Artistic, hand-drawn, print-in backgrounds may be obtained from S. Harrison, 456 Linden Blvd., Brooklyn, N. Y. Print-In Backgrounds are simply supple-

mentary negatives carrying a background design and an open space for the image on the portrait negative. The two are placed in contact and printed as one or the combination may be made by double printing in the enlarging process. An illustrated circular may be had on application to the above address.

Camera Insurance

The increased precision of cameras and other photographic equipment means that the cost of these articles has increased accordingly, so that many a photographer finds himself with a considerable investment. Insurance is the obvious answer. William L. Lantz & Co., 2600 Eaton Tower, Detroit, Mich., will write an all-risk policy on your equipment for a premium of 2 per cent valuation. Write to the above address for full information.

Agfa to Open 16 mm. Processing Plant in San Francisco

About Dec. 1, 1935 Agfa Ansco Corp. will open a plant for the processing of 16 mm. reversible motion picture film in San Francisco. Name and location of the new plant is the Motion Picture Service Co., 125 Hyde St., San Francisco, Calif. Mr. W. E. R. Kramer, previously with the Agfa processing plant in Los Angeles, will be in charge. For the present the plant will handle only 16 mm. reversible film. It offers an 8 hour service, which means that films turned in at 9 A.M. will be completed by 5 P.M. the same day.

Mr. A. S. Hofmeister Marries

Dealers and photographers when sending orders to the San Francisco branch of the Agfa Ansco. Corp. are advised to add a gross or two of film and paper to the order and mark "Wedding Present." This because we learn that Gus Hofmeister, the smiling San Francisco manager for Agfa Ansco, was married to Mrs. Margaret E. Middleton on Oct. 18th. Camera Craft knows that it speaks for a large number of Pacific Coast photographers in wishing the couple every happiness.

Ley Synchronize Flashflector

The Ley Photolite Co., 1627 Carmen Ave., Chicago, Ill., have just placed on the market a simple, easy to operate photo-flash synchronizer that sells at a remarkably low price. Model A will fit from No.

1 to 3A Kodaks, as well as many other cameras, and operates in conjunction with a cable release. Synchronizing shutter and flash is a simple operation and can be easily done by the most inexperienced photographer. The possession of such equipment opens many new fields to the photographer as examples of which we refer the reader to the two splendid pictures of cats, which may be seen in our competition department in the October and December issues. A picture of the equipment may be seen in the advertising pages of this issue and full details may be obtained by writing to the above address.

The New Grant Enlarger

A new enlarger for miniature negatives has just been placed on the market by C. A. Norgren Co., 2018 Market St., Denver, Colo. Designed to match the precision of modern miniature cameras the new enlarger is equipped with an F:3.5 anastigmat lens and boasts exceptionally

even light distribution and freedom from heat, plus fast convenient and economical operation. Do not fail to see this equipment at your dealers and write to the above address for descriptive literature.

Chandler Deckle Trimmer

Imparting a deckle edge to one's photographs or Christmas cards now becomes as simple as trimming prints in an ordinary trimmer. One need only trim in a Chandler Deckle Trimmer and the deckle edge is there. The 6" trimmer sells for only \$3.20. See it at your dealers and write to the Chandler Machine Co., Ayer, Mass., for full information.

Photographic Lens Co.

Last month we announced a change of address for the Photographic Lens Co., dealers in new and re-conditioned lenses of all standard makes. Unfortunately we made a mistake with the new address. It should be 140 W. 32nd St., New York, N. Y.

Classified Advertisements

OUTFITS WANTED

◆Ernemann or Mentor focal plane Ica Minimum Palmos or Contessa Deckrullo $3\frac{1}{4} \times 4\frac{1}{4}$ f:4.5 or f:6.3 lens. Must be in good condition and priced right. J. E. Patterson, 341 Giannini Hall, Berkeley, Calif.

◆9½" Dagor Lens in shutter, reasonable. Give price and condition. Morton & Co., 515 Market St., San Francisco, Calif.

STUDIOS FOR SALE

◆Leading ground floor studio in city of 12,000, good territory to draw from. Doing good portrait business, kodak finishing, films, kodaks, framing. Good scenic territory close to Yellowstone and Geton National Parks. Best hunting and fishing. Reason for selling: have other interest to attend to. Cash deal only. J. S. P., c/o Camera Craft, 703 Market St., San Francisco, Calif.

INCOME from your camera instead of expense.

Low-cost, home course teaches you to make photographs for magazines, newspapers, advertisers. Tremendous demand. Earn good money wherever you live. Free book. Universal Photographers, Dept. K, 10 West 33rd St., New York.

OUTFITS FOR SALE

Keystone 16 mm. Camera f3.5	\$34.50
Cine Kodak, Model M, f3.5	38.50
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